IDERA PHARMACEUTICALS, INC.
Form 424B4
August 28, 2013
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Filed Pursuant to Rule 424(b)(4)

Registration File No. 333-187155

PROSPECTUS SUPPLEMENT NO. 1

To Prospectus dated May 1, 2013

Idera Pharmaceuticals, Inc.

This prospectus supplement no. 1 supplements the prospectus dated May 1, 2013, relating to the offering of (i) the 17,500,000 shares of our common stock, and the warrants to purchase 49,132,654 shares of our common stock that we issued and sold on May 7, 2013 and (ii) the shares of common stock that are issuable from time to time upon exercise of the warrants.

This prospectus supplement incorporates into the prospectus the information contained in the following documents filed by us with the Securities and Exchange Commission, or SEC, each of which is attached to this prospectus supplement:

- our quarterly report on Form 10-Q for the quarter ended March 31, 2013, which was filed with the SEC on May 15, 2013;
- our quarterly report on Form 10-Q for the quarter ended June 30, 2013, which was filed with the SEC on August 14, 2013;
- our definitive proxy statement for our 2013 annual meeting of stockholders and additional definitive proxy soliciting materials, which were filed with the SEC on June 10, 2013; and
- our current reports on Form 8-K, which were filed with the SEC on May 2, 2013, May 7, 2013, May 9, 2013, May 24, 2013, May 31, 2013, July 10, 2013, July 29, 2013 and August 12, 2013.

You should read this prospectus supplement in conjunction with the prospectus, including any supplements and amendments thereto. This prospectus supplement is qualified by reference to the prospectus except to the extent that the information in the prospectus supplement supersedes the information contained in the prospectus.

This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any supplements and amendments thereto.

Investing in our common stock involves risks. Please read carefully the section entitled Risk Factors beginning on page 8 of the prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is August 28, 2013.

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

x **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2013

or

¨ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For transition period from _____ to _____.

Commission File Number: 001-31918

IDERA PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**04-3072298**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
167 Sidney Street	
Cambridge, Massachusetts	**02139**
(Address of principal executive offices)	**(zip code)**

(617) 679-5500

(Registrant s telephone number, including area code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ¨	Accelerated filer ¨
Non-accelerated filer x (Do not check if a smaller reporting company)	Smaller reporting company ¨

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No x

Common Stock, par value $.001 per share	45,163,330
Class	Outstanding as of May 10, 2013

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IDERA PHARMACEUTICALS, INC.

FORM 10-Q

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IMO® and Idera® are our trademarks. All other trademarks and service marks appearing in this Quarterly Report on Form 10-Q are the property of their respective owners.

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FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included or incorporated in this report regarding our strategy, future operations, collaborations, intellectual property, cash resources, financial position, future revenues, projected costs, prospects, plans, and objectives of management are forward-looking statements. The words believes, anticipates, estimates, plans, expects, intends, may, could, should, potential, likely, projects, continue, will, and wo are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. These important factors include those set forth below under Part II, Item 1A Risk Factors. These factors and the other cautionary statements made in this Quarterly Report on Form 10-Q should be read as being applicable to all related forward-looking statements whenever they appear in this Quarterly Report on Form 10-Q. In addition, any forward-looking statements represent our estimates only as of the date that this Quarterly Report on Form 10-Q is filed with the Securities and Exchange Commission and should not be relied upon as representing our estimates as of any subsequent date. We do not assume any obligation to update any forward-looking statements. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

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PART I FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

IDERA PHARMACEUTICALS, INC.

CONDENSED BALANCE SHEETS

(UNAUDITED)

(In thousands, except per share amounts)	March 31, 2013	December 31, 2012
ASSETS		
Current assets:		
Cash and cash equivalents	$ 6,149	$ 10,096
Prepaid expenses and other current assets	176	198
Total current assets	6,325	10,294
Property and equipment, net	178	218
Restricted cash	311	311
Total assets	$ 6,814	$ 10,823
LIABILITIES, REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS (DEFICIT) EQUITY		
Current liabilities:		
Accounts payable	$ 977	$ 1,129
Accrued expenses	3,097	3,002
Total current liabilities	4,074	4,131
Other liabilities	30	65
Total liabilities	4,104	4,196
Commitments and contingencies		
Series D Redeemable Convertible Preferred Stock, $0.01 par value, Designated, issued and outstanding - 1,124 shares; Redemption amount $9,149; Liquidation preference $9,389	5,921	5,921
Non-redeemable preferred stock, common stock, and other stockholders (deficit) equity:		
Preferred stock, $0.01 par value, Authorized 5,000 shares		
Series E convertible preferred stock, Designated, issued and outstanding 424 shares; Liquidation preference $6,048	3,701	3,701
Series A convertible preferred stock, Designated 1,500 shares, issued and outstanding 1 share		
Common stock, $0.001 par value, Authorized 140,000 shares, issued and outstanding 27,645 and 27,643 shares at March 31, 2013 and December 31, 2012, respectively	28	28
Additional paid-in capital	391,525	391,635
Accumulated deficit	(398,465)	(394,658)
Total stockholders (deficit) equity	(3,211)	706
Total liabilities, redeemable preferred stock and stockholders (deficit) equity	$ 6,814	$ 10,823

The accompanying notes are an integral part of these financial statements.

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IDERA PHARMACEUTICALS, INC.

CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(UNAUDITED)

(In thousands, except per share amounts)	Three Months Ended March 31 2013	2012
Alliance revenue	$ 7	$ 9
Operating expenses:		
Research and development	2,328	3,813
General and administrative	1,527	1,689
Total operating expenses	3,855	5,502
Loss from operations	(3,848)	(5,493)
Other income (expense):		
Increase in fair value of warrant liability		(1,321)
Investment income, net	2	4
Foreign currency exchange gain (loss)	39	(76)
Net loss	(3,807)	(6,886)
Preferred stock dividends	279	160
Net loss applicable to common stockholders	$ (4,086)	$ (7,046)
Net loss per common share applicable to common stockholders (Note 10):		
Basic	$ (0.15)	$ (0.25)
Diluted	$ (0.15)	$ (0.25)
Shares used in computing net loss per common share applicable to common stockholders:		
Basic	27,644	27,637
Diluted	27,644	27,637
Net loss	$ (3,807)	$ (6,886)
Other comprehensive income		
Comprehensive loss	$ (3,807)	$ (6,886)

The accompanying notes are an integral part of these financial statements.

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IDERA PHARMACEUTICALS, INC.

CONDENSED STATEMENTS OF CASH FLOWS

(UNAUDITED)

(In thousands)	Three Months Ended March 31, 2013	2012
Cash Flows from Operating Activities:		
Net loss	$ (3,807)	$ (6,886)
Adjustments to reconcile net loss to net cash used in operating activities:		
Loss from disposition of assets		1
Non-employee stock option expense	2	4
Stock-based compensation	253	588
Increase in fair value of warrant liability		1,321
Depreciation expense	42	83
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	22	(2)
Accounts payable, accrued expenses, and other liabilities	(211)	(889)
Net cash used in operating activities	(3,699)	(5,780)
Cash Flows from Investing Activities:		
Purchases of property and equipment	(1)	
Net cash used in investing activities	(1)	
Cash Flows from Financing Activities:		
Dividends paid	(160)	(103)
2012 financing transaction costs paid in 2013	(87)	
Proceeds from employee stock purchases	1	1
Payments on capital lease	(1)	
Net cash used in financing activities	(247)	(102)
Net (decrease) in cash and cash equivalents	(3,947)	(5,882)
Cash and cash equivalents, beginning of period	10,096	24,571
Cash and cash equivalents, end of period	$ 6,149	$ 18,689

The accompanying notes are an integral part of these financial statements.

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IDERA PHARMACEUTICALS, INC.

NOTES TO CONDENSED FINANCIAL STATEMENTS

March 31, 2013

(UNAUDITED)

(1) Organization

Idera Pharmaceuticals, Inc. (Idera or the Company) is a clinical stage biotechnology company engaged in the discovery and development of novel synthetic DNA- and RNA-based drug candidates that are designed to modulate immune responses mediated through Toll-like Receptors, or TLRs. The Company is focusing its development efforts on the treatment of autoimmune and inflammatory diseases. The Company has two drug candidates, IMO-3100, a TLR7 and TLR9 antagonist, and IMO-8400, a TLR7, TLR8, and TLR9 antagonist, in clinical development for the treatment of autoimmune and inflammatory diseases. The Company has presented data from a Phase 2 clinical trial of IMO-3100 in patients with moderate to severe plaque psoriasis. The Company believes that the results of this trial provide clinical proof of concept for its approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

TLRs are specific receptors present in immune system cells. Using a chemistry-based approach, the Company has created synthetic DNA- and RNA-based compounds that are targeted to TLR3, TLR7, TLR8, and TLR9. A TLR antagonist is a compound that blocks activation of an immune response through the targeted TLR. A TLR agonist is a compound that stimulates an immune response through the targeted TLR.

The Company believes that the modulation of immune responses through TLRs provides a rationale for the development of drug candidates to treat a broad range of diseases, including autoimmune and inflammatory diseases, cancer, respiratory diseases, and for use as vaccine adjuvants. The Company is a party to a collaboration alliance with Merck Sharp & Dohme Corp. (formerly Merck & Co., Inc.) (Merck & Co.), for the use of agonists of TLR7, TLR8, and TLR9 as adjuvants in the development of vaccines for cancer, infectious diseases, and Alzheimer s disease. The Company is seeking to enter into additional collaborative alliances with third parties with respect to its TLR-targeted programs in oncology, hematological malignancies, respiratory diseases, and the use of TLR3 agonists as vaccine adjuvants.

The Company had cash and cash equivalents of approximately $6,149,000 at March 31, 2013. The Company believes that the net proceeds of the follow-on public offering of its securities in May 2013, together with its existing cash and cash equivalents, will enable the Company to fund its operations at least through the fourth quarter of 2014. The Company believes that its available funds following the May 2013 offering will be sufficient to enable the Company to conduct its planned Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. The Company will need to raise additional funds in order to conduct any other clinical development of IMO-3100 or IMO-8400 or to conduct any other development of its other product candidates or technologies. It is also possible that the Company will not achieve the progress that it expects with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays.

At March 31, 2013, the Company had an accumulated deficit of $398,465,000. The Company expects to incur substantial operating losses in future periods. The Company does not expect to generate significant product revenue or sales-based milestones or royalties until it successfully completes development and obtains marketing approval for drug candidates, either alone or in collaborations with third parties, which it expects will take a number of years. In order to commercialize its drug candidates, the Company needs to complete clinical development and to comply with comprehensive regulatory requirements.

The Company is subject to a number of risks and uncertainties similar to those of other companies of the same size within the biotechnology industry, such as uncertainty of clinical trial outcomes, uncertainty of additional funding, and history of operating losses.

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(2) Unaudited Interim Financial Statements

The accompanying unaudited financial statements included herein have been prepared by the Company in accordance with United States Generally Accepted Accounting Principles (U.S. GAAP) for interim financial information and pursuant to the rules and regulations of the Securities and Exchange Commission (the SEC). Accordingly, certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. In the opinion of management, all adjustments, consisting of normal recurring adjustments, and disclosures considered necessary for a fair presentation of interim period results have been included. Interim results for the three months ended March 31, 2013 are not necessarily indicative of results that may be expected for the year ended December 31, 2013. For further information, refer to the financial statements and footnotes thereto included in the Company s Annual Report on Form 10-K for the fiscal year ended December 31, 2012, which was filed with the SEC on March 11, 2013.

(3) Cash and Cash Equivalents

The Company considers all highly liquid investments with maturities of 90 days or less when purchased to be cash equivalents. Cash and cash equivalents at March 31, 2013 and December 31, 2012 consisted of cash and money market funds.

(4) Fair Value of Assets and Liabilities

The Company measures fair value at the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date using assumptions that market participants would use in pricing the asset or liability (the inputs) into a three-tier fair value hierarchy. This fair value hierarchy gives the highest priority (Level 1) to quoted prices in active markets for identical assets or liabilities and the lowest priority (Level 3) to unobservable inputs in which little or no market data exists, requiring companies to develop their own assumptions. Observable inputs that do not meet the criteria of Level 1, and include quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets and liabilities in markets that are not active, are categorized as Level 2. Level 3 inputs are those that reflect the Company s estimates about the assumptions market participants would use in pricing the asset or liability, based on the best information available in the circumstances. Valuation techniques for assets and liabilities measured using Level 3 inputs may include unobservable inputs such as projections, estimates and management s interpretation of current market data. These unobservable Level 3 inputs are only utilized to the extent that observable inputs are not available or cost-effective to obtain.

The Company applies Accounting Standards Update No. 2011-04, Fair Value Measurement (Topic 820) (ASU No. 2011-04), which updated the previous fair value measurement guidance that had been included in the Accounting Standards Codification (ASC) to achieve common fair value measurement and disclosure requirements in U.S. GAAP and International Financial Reporting Standards.

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The table below presents the assets and liabilities measured and recorded in the financial statements at fair value on a recurring basis at March 31, 2013 and December 31, 2012 categorized by the level of inputs used in the valuation of each asset and liability.

(In thousands)	Total	Quoted Prices in Active Markets for Identical Assets or Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
March 31, 2013				
Assets				
Money market fund	$ 6,102	$ 6,102	$	$
Total assets	$ 6,102	$ 6,102	$	$
Total liabilities	$	$	$	$
December 31, 2012				
Assets				
Money market fund	$ 9,990	$ 9,990	$	$
Total assets	$ 9,990	$ 9,990	$	$
Total liabilities	$	$	$	$

The Level 1 assets consist of money market funds, which are actively traded daily. Although the Company did not have any Level 2 assets at March 31, 2013 or December 31, 2012, Level 2 assets typically consist of corporate bond investments whose fair value is generally determined from quoted market prices received from pricing services based upon quoted prices from active markets and/or other significant observable market transactions at fair value. Since these prices may not represent actual transactions of identical securities, they are classified as Level 2. Since any investments are classified as available-for-sale securities, any unrealized gains or losses are recorded in accumulated other comprehensive income or loss within stockholders (deficit) equity on the balance sheet. The Company did not elect to measure any other financial assets or liabilities at fair value.

In connection with the sale of its Series D redeemable convertible preferred stock (Series D preferred stock) in November 2011, the Company issued warrants which contained provisions for anti-dilution protection in the event that the Company issued other equity securities at a price below $1.46 per common share. Because of the potential adjustment to the warrant exercise price that could result from this anti-dilution protection, the warrants did not meet the criteria set forth in ASC 815-40, Derivatives and Hedging Contracts in Entity s own Stock to be considered indexed to the Company s own stock. Accordingly, the Company recorded the fair value of these warrants as a liability. The Company estimated the fair value of these warrants at the issuance date using the Black-Scholes Model as the result was not significantly different than the use of a lattice or binomial model because the price protection provision was subject to a floor of $1.46 per share and the initial exercise price was $1.63. The Company characterized this warrant liability as a Level 3 liability because its fair value measurement was based, in part, on significant inputs not observed in the market and represented the Company s assumptions as to the expected warrant exercise price, the expected volatility of the Company s common stock, the expected dividend yield, the expected term of the warrant instrument and the expected percentage of warrants to be exercised.

The Company revalued the warrants at the end of each quarter using the Black-Scholes Model and recognized the change in the fair value of the warrants in the statements of operations and comprehensive loss as other income (expense). The following assumptions and other inputs were used to compute the fair value of the warrant liability as of March 31, 2012 and December 31, 2011:

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	March 31 2012	December 31, 2011
Common stock price	$ 1.73	$ 1.05
Expected warrant exercise price	$ 1.63	$ 1.46
Remaining term of warrant (years)	4.6	4.8
Expected volatility	61%	58%
Average risk free interest rate	0.9%	0.8%
Expected dividend yield		
Expected percentage of warrants to be exercised	100%	100%

The closing price of the Company s common stock is readily determinable since it is publicly traded. The exercise price of the warrant was initially set at $1.63 and was subject to adjustment to a price to as low as the $1.46 minimum exercise price per share for diluting effects such as if in specified circumstances the Company sells its common stock at a price below $1.46 per share. The Company used the $1.46 minimum exercise price as an assumption in computing the fair value of the warrant at December 31, 2011 because the Company s common stock was trading below $1.46. The Company used the $1.63 maximum exercise price as an assumption in computing the fair value of the warrant at March 31, 2012 because the Company s common stock was trading above $1.63 on March 31, 2012. The estimated remaining term of the warrant is readily determinable from the warrant agreement as it is the remaining contractual term. The expected volatility is based on the actual stock-price volatility over a period equal to the greater of the remaining term of the warrant or three years. The assumed risk-free interest rate is based on the U.S. Treasury security rate with a term equal to the remaining term of the warrant. The assumed dividend yield of zero is based on the fact that the Company has never paid cash dividends to common stockholders and has no present intention to pay cash dividends to common stockholders. The Company assumed that future financings would dilute the warrant holder s ownership in the Company such that the 19.99% ownership limitation would not prevent the warrant holder from exercising all of the warrants during the term of the warrants.

The fair value of the warrant liability increased from $1,178,000 at December 31, 2011 to $2,499,000 at March 31, 2012 primarily due to an increase in the price of the Company s common stock. The increase in the fair value of the warrant liability resulted in the recognition of a $1,321,000 expense in other income (expense) for the three months ended March 31, 2012.

The sale of shares of Series E convertible preferred stock (Series E preferred stock) and related warrants to purchase shares of our common stock (Series E warrants) in our November 2012 Series E financing triggered an anti-dilution adjustment, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. Since the exercise price of the Series D warrants became fixed, the Series D warrants then met the exception under ASC 815-40 as they were now indexed to the company s own stock and met certain criteria for equity classification. Thus the Series D warrants were marked to fair value through earnings as of November 9, 2012 and then reclassified to stockholders equity at that time. Consequently, the Company did not record any non-operating income or expense related to the Series D warrants during the three months ended March 31, 2013.

(5) Property and Equipment

At March 31, 2013 and December 31, 2012, net property and equipment at cost consisted of the following:

(In thousands)	March 31, 2013	December 31, 2012
Leasehold improvements	$ 525	$ 525
Laboratory equipment and other	2,858	2,856
Total property and equipment, at cost	3,383	3,381
Less: accumulated depreciation	3,205	3,163
Property and equipment, net	$ 178	$ 218

Depreciation expense was approximately $42,000 and $83,000 in the three months ended March 31, 2013 and 2012, respectively.

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(6) Restricted Cash

As part of the Company s lease arrangement for its office and laboratory facility, the Company is required to restrict cash for a security deposit. As of March 31, 2013, the restricted cash amounted to $311,000 held in certificates of deposit securing a line of credit for the lessor.

(7) Collaboration and License Agreements

(a) Collaboration and License Agreement with Merck & Co.

In December 2006, the Company entered into an exclusive, worldwide license and research collaboration agreement with Merck & Co. to research, develop, and commercialize vaccine products containing the Company s TLR7, TLR8, and TLR9 agonists in the fields of cancer, infectious diseases, and Alzheimer s disease. Under the terms of the agreement, the Company granted Merck & Co. exclusive rights to a number of the Company s TLR7, TLR8, and TLR9 agonists for use in combination with Merck & Co. s therapeutic and prophylactic vaccines under development in the fields of cancer, infectious diseases, and Alzheimer s disease. There is no limit under the agreement to the number of vaccines to which Merck & Co. can apply the Company s agonists within these fields. The Company also agreed with Merck & Co. to engage in a two-year research collaboration to generate novel agonists targeting TLR7 and TLR8 incorporating both Merck & Co. and the Company s chemistry for use in vaccines in the defined fields. Under the terms of the agreement, Merck & Co. extended the research collaboration for two additional years to December 2010. Under the terms of the agreement:

Merck & Co. paid the Company a $20.0 million upfront license fee;

Merck & Co. purchased $10.0 million of the Company s common stock at $5.50 per share;

Merck & Co. agreed to fund the research and development collaboration through its term;

Merck & Co. agreed to pay the Company milestone payments as follows:

up to $165.0 million if vaccines containing the Company s TLR9 agonist compounds are successfully developed and marketed in each of the oncology, infectious disease, and Alzheimer s disease fields;

up to $260.0 million if vaccines containing the Company s TLR9 agonist compounds are successfully developed and marketed for follow-on indications in the oncology field and if vaccines containing the Company s TLR7 or TLR8 agonists are successfully developed and marketed in each of the oncology, infectious disease, and Alzheimer s disease fields; and

if Merck & Co. develops and commercializes additional vaccines using the Company s agonists, the Company would be entitled to receive additional milestone payments; and

Merck & Co. agreed to pay the Company mid to upper single-digit royalties on net product sales of vaccines using the Company s TLR agonist technology that are developed and marketed, with the royalty rates being dependent on disease indication and the TLR agonist employed.

The Company recognized the $20.0 million upfront payment as revenue over four years, including the initial two-year research term and the two-year extension period that ended in December 2010, which was the Company s period of continuing involvement under the research collaboration. The Company has recognized a total of $1.0 million of milestone revenue under the license and collaboration agreement, which related to the achievement of a preclinical milestone with one of its TLR9 agonists used as an adjuvant in cancer vaccines.

In December 2006, in connection with the execution of the license and collaboration agreement, the Company entered into a stock purchase agreement with Merck & Co. Pursuant to such stock purchase agreement, the Company issued and sold to Merck & Co. 1,818,182 shares of the Company s common stock for a price of $5.50 per share resulting in aggregate gross proceeds of $10.0 million.

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(b) Collaboration and License Agreement with Merck KGaA

In December 2007, the Company entered into an exclusive, worldwide license agreement with Merck KGaA, Darmstadt, Germany (Merck KGaA) to research, develop and commercialize products containing its TLR9 agonists, including IMO-2055, for the treatment of cancer, excluding cancer vaccines. Under the terms of the agreement: Merck KGaA paid the Company in February 2008 a $40.0 million upfront license fee in Euros of which $39.7 million was received due to foreign currency exchange rates in effect at that time, and Merck KGaA agreed to reimburse costs for the Company s IMO-2055 clinical trials for the period in which the Company continued to conduct the trials on behalf of Merck KGaA. In February 2009, the agreement was amended so that the Company could initiate and conduct on behalf of Merck KGaA additional clinical trials of IMO-2055, and Merck KGaA agreed to reimburse the Company for costs associated with any additional trials that the Company initiated and conducted. As of March 2010, Merck KGaA assumed sponsorship of all ongoing clinical trials of IMO-2055 for the treatment of cancer, and responsibility for all further clinical development of IMO-2055 in the treatment of cancer, excluding vaccines.

The Company recognized the $40.0 million upfront payment as revenue over the twenty-eight month term that ended in June 2010, which was the Company s period of continuing involvement under the research collaboration. The Company has recognized a total of $12.1 million of milestone revenue related to the initiation of clinical trials of IMO-2055.

In November 2011, the Company and Merck KGaA entered into a termination agreement terminating the license agreement. Under the termination agreement:

the license agreement was terminated and the Company regained all rights for developing TLR9 agonists for the treatment of cancer, including all rights to IMO-2055 and any follow-on TLR9 agonists;

Merck KGaA agreed to continue to conduct the Phase 2 trial of IMO-2055 in combination with cetuximab that was then ongoing and other specified related activities;

Merck KGaA agreed to complete and analyze all clinical trials that Merck KGaA had initiated or for which Merck KGaA had assumed sponsorship and to finalize clinical study reports;

the Company gained rights to the data from the Phase 2 trial of IMO-2055 in combination with cetuximab, as well as to the data from the Phase 1 trials conducted in other cancer indications;

the Company agreed to reimburse Merck KGaA a maximum of 1.8 million ($2.3 million using a March 31, 2013 exchange rate) of Merck KGaA s costs for the third-party contract research organization that is coordinating the Phase 2 trial of IMO-2055 in combination with cetuximab, payable in eleven installments comprised of ten monthly installments to be invoiced by Merck KGaA to the Company commencing on March 1, 2012 and a final payment payable by the Company to Merck KGaA upon Merck KGaA s completion of certain specified activities. As of March 31, 2013, the Company has paid 0.8 of the 1.8 million ($1.1 million (using exchange rates in effect at the time that the payments were made) of the $2.3 million);

the Company agreed to pay to Merck KGaA one-time 1.0 million ($1.3 million using a March 31, 2013 exchange rate) milestone payments upon occurrence of each of the following milestones: (i) partnering of IMO-2055 between the Company and any third party, (ii) initiation of any Phase 2 or Phase 3 clinical trial for IMO-2055 and (iii) regulatory submission of IMO-2055 in any country; and

Merck KGaA granted the Company an option to obtain a license to certain manufacturing and formulation know-how owned or developed by Merck KGaA under the License Agreement and to Merck KGaA s IMOxine trademark. The Company s option to license the IMOxine trademark has expired. If the Company elects to exercise its option with respect to the manufacturing and

formulation know-how, the Company has agreed to pay a low single digit royalty on net sales of IMO-2055, with respect to such license.

The Company recorded the 1.8 million ($2.4 million using a November 30, 2011 exchange rate) that it has agreed to reimburse Merck KGaA in installment payments as research and development expense for the fourth quarter of 2011 as such amount represented the cost of regaining the Company s rights to IMO-2055 and follow-on compounds for use in the treatment of cancer, excluding cancer vaccines. As of March 31, 2013, 1.0 million ($1.3 million using a March 31, 2013 exchange rate) of these installments remained payable under the termination agreement and is recorded under accrued expenses in the condensed balance sheet.

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(8) Stock-Based Compensation

The Company recognizes all share-based payments to employees and directors as expense in the statements of operations and comprehensive loss based on their fair values. The Company records compensation expense over an award s requisite service period, or vesting period, based on the award s fair value at the date of grant. The Company s policy is to charge the fair value of stock options as an expense, adjusted for forfeitures, on a straight-line basis over the vesting period, which is generally four years for employees and three years for directors. Prior to December 2011, the vesting of all of the Company s stock options was based on the passage of time and the employees continued service. In December 2011 and January 2012, the Company granted performance-based stock options to purchase 697,500 shares of common stock to employees. As of the grant date of such options, options to purchase 174,375 shares were to vest immediately upon the achievement of various performance conditions and options to purchase 523,125 shares were to vest over a three year service period upon the achievement of the same performance conditions. During 2012, three of the specified performance conditions were achieved. As a result, options to purchase 80,213 shares vested immediately, and options to purchase 240,640 shares began vesting over a three-year period in accordance with the terms of the performance-based options. In addition, as of March 31, 2013, five of the specified performance conditions were not met by their deadlines resulting in the cancellation of 265,597 performance-based options. The Company recognizes expense over the implicit and explicit service periods for awards with performance conditions when the Company determines the achievement of the performance conditions to be probable.

The Company recorded charges of $253,000 and $588,000 for the three months ended March 31, 2013 and 2012, respectively for stock-based compensation expense attributable to share-based payments made to employees and directors. The fair value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model. The following assumptions apply to the options to purchase 37,500 shares of common stock granted during the three months ended March 31, 2012:

	Three Months Ended March 31, 2012
Average risk free interest rate	1.1%
Expected dividend yield	
Expected lives (years)	5.8
Expected volatility	67.0%
Weighted average grant date fair value of options granted during the period (per share)	$ 0.69
Weighted average exercise price of options granted during the period (per share)	$ 1.15

The Company did not grant any stock options during the three months ended March 31, 2013. The expected lives and the expected volatility of the options are based on historical experience. All options granted during the three months ended March 31, 2012 were granted at exercise prices equal to the fair market value of the common stock on the dates of grant.

(9) Net Loss per Common Share Applicable to Common Stockholders

For the three months ended March 31, 2013 and 2012, basic and diluted net loss per common share applicable to common stockholders is computed using the weighted average number of shares of common stock outstanding during the period. Diluted net loss per common share applicable to common stockholders is the same as basic net loss per common share applicable to common stockholders as the effects of the Company s potential common stock equivalents are antidilutive. Total antidilutive securities were 33,037,104 and 16,018,566 for the three months ended March 31, 2013 and 2012, respectively, and consist of stock options, preferred stock and warrants.

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For the three months ended March 31, 2013, net loss per common share applicable to common stockholders reflects $279,000 in dividends payable on shares of our Series D preferred stock that were issued in November 2011 and our Series E preferred stock that were issued in November 2012. For the three months ended March 31, 2012, net loss per common share applicable to common stockholders reflects $160,000 in dividends payable on shares of our Series D preferred stock that were issued in November 2011.

(10) Employee Stock Purchases

During the three months ended March 31, 2013 and 2012, the Company issued 1,744 shares and 721 shares, respectively, of common stock in connection with employee stock purchases under the Company s 1995 Employee Stock Purchase Plan, which resulted in total proceeds to the Company of approximately $1,000 in each quarter.

(11) Related Party Transactions

The Company paid a director consulting fees of approximately $1,000 in the three months ended March 31, 2012 for services performed in 2011. The Company did not pay consulting fees to directors during the three months ended March 31, 2013.

(12) Subsequent Events

Follow-on Public Offering

On May 7, 2013, the Company closed a follow-on public offering, in which it sold 17,500,000 shares of common stock, together with warrants to purchase up to 17,500,000 shares of common stock, at a combined price to the public of $0.50 per share and related warrant, and pre-funded warrants to purchase up to 15,816,327 shares of common stock, together with warrants to purchase up to 15,816,327 shares of common stock, at a combined price to the public of $0.49 per pre-funded warrant share and related warrant, for aggregate gross proceeds of $16.5 million. The estimated net proceeds to the Company from the offering, after deducting underwriters discounts and commissions and other offering costs and expenses and excluding the proceeds of the future exercise of the warrants, if any, were approximately $14.7 million.

The warrants have an exercise price of $0.47 per share of common stock and are exercisable for a period of five years from May 7, 2013 and the pre-funded warrants have an exercise price of $0.01 per share of common stock and are exercisable for a period of seven years from May 7, 2013. The warrants and the pre-funded warrants each provide that, after the second anniversary of the date of issuance, the Company may redeem the warrants for $0.01 per share of common stock issuable on exercise of the warrants following 30 days prior written notice to the holder if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80.

April 2013 Pillar Agreements

In April 2013, the Company entered into two agreements (the Pillar Agreements) with Pillar Pharmaceuticals I, L.P. (Pillar I), Pillar Pharmaceuticals II, L.P. (Pillar II) and an entity affiliated with Pillar I and Pillar II (together with Pillar I and Pillar II, the Pillar Entities). The agreements, including the Company s obligations to issue the warrants under the Pillar Agreements, became effective upon the consummation of the underwritten public offering on May 7, 2013. Mr. El Zein, a member of the Company s board of directors, is a director and controlling stockholder of Pillar Invest Corporation (Pillar Invest), which is the general partner of Pillar I and Pillar II, and is a limited partner of Pillar I and Pillar II. Mr. El Zein has voting and investment control over the securities beneficially owned by the Pillar Entities. In addition, Abdul-Wahab Umari, also a member of the Company s board of directors, is a managing partner of Pillar Invest.

Under the first agreement entered into with Pillar I and Pillar II (the April 22, 2013 Pillar Agreement), Pillar I, as the sole holder of the Company s Series D preferred stock, irrevocably waived and agreed to not exercise the rights, powers, preferences and other terms of the Series D preferred stock under Section 6 of the Certificate of Designations, Preferences

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and Rights of Series D Preferred Stock (the Series D Certificate of Designations), including without limitation the right to require the Company to purchase all or any portion of the shares of its Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of the Company or successor entity.

Under the April 22, 2013 Pillar Agreement, the Company and each of Pillar I and Pillar II agreed, among other things:

to an amendment to the Series D Certificate of Designations for the Series D preferred stock to:

- modify the dividend provisions of the Series D Certificate of Designations to change the date after which the Company may elect to pay dividends in shares of its common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of its common stock as a result of the application of the beneficial ownership and voting power limitations set forth the Series D Certificate of Designations; and

- in connection with the waiver of the right to require the Company to purchase the Series D preferred stock upon the occurrence of specified fundamental changes, to modify the Series D Certificate of Designations to provide, in the event of a sale of the Company, for the distribution of any assets that remain available for distribution to its stockholders, after payment to the holders of its Series A convertible preferred stock and any other class of its capital stock that ranks senior to its Series D preferred stock, to the holders of our Series D preferred stock on a pro rata basis with the holders of its common stock, Series E preferred stock and such new series of non-voting preferred stock; and

to an amendment to the Certificate of Designations, Preferences and Rights of Series E Preferred Stock (the Series E Certificate of Designations) to:

- modify the dividend provisions of the Series E Certificate of Designations to allow for the payment of dividends in shares of its common stock commencing October 1, 2013; and

- allow for the payment of dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of its common stock as a result of the application of the beneficial ownership and voting power limitations set forth in the Series E Certificate of Designations.

Under the second agreement with the Pillar Entities (the April 30, 2013 Pillar Agreement), Pillar I irrevocably waived the right of the holders of the Series D preferred stock under Section 2.1 of the Series D Certificate of Designations to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company (a Liquidation), an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of the Company s common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation.

In addition, under the April 30, 2013 Pillar Agreement, Pillar II and the entity affiliated with Pillar I and Pillar II, as the holders of 100% of the Company s Series E preferred stock, irrevocably waived the right of the holders of the Series E preferred stock under Section 2.1.1 of the Series E Certificate of Designations to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have

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been payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series E preferred stock will receive under Section 2.1 of the Series E Certificate of Designations an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation.

Under the Pillar Agreements, the Company has agreed to seek approval from its stockholders at its 2013 annual meeting of stockholders of amendments to the Series D Certificate of Designations and Series E Certificate of Designations to effect these changes to the dividend and liquidation provisions of the Company s Series D preferred stock and Series E preferred stock, the redemption rights of the holders of its Series D preferred stock and the rights of the holders of its Series D preferred stock to distributions in the event of a sale of the Company. Each applicable Pillar Entity has agreed:

- to vote, and to cause its affiliates to vote, all shares of the Company s voting stock held by such Pillar Entity or its affiliates, and over which such Pillar Entity or its affiliates has the power to vote, in favor of such amendments; and

- not to, and to cause its affiliates not to, sell or transfer any shares of common stock, Series D preferred stock or Series E preferred stock held by such Pillar Entity or its affiliates to any person, entity or group unless such proposed transferee agrees in a written instrument executed by such transferee, the applicable Pillar Entity and us to take and hold such securities subject to, among other things, the Pillar Agreements and to be bound by the terms of such Pillar Agreements, including the waiver of rights, voting agreements and restrictions on transfer set forth therein.

Under the April 22, 2013 Pillar Agreement, in consideration of the agreements of Pillar I and II under the April 22, 2013 Pillar Agreement and the delivery of the waiver by Pillar I, and for no additional cash consideration, the Company issued to Pillar I warrants, the Pillar I Warrants, to purchase up to 1,000,000 shares of the Company s common stock at an exercise price of $0.61 per share.

In addition, under the April 30, 2013 Pillar Agreement, in consideration of the agreements of the Pillar Entities under the April 30, 2013 Pillar Agreement and the delivery of the waivers by the Pillar Entities, and for no additional cash consideration, the Company issued to the Pillar Entities warrants (the Additional Pillar Warrants, and together with the Pillar I Warrants, the Pillar Warrants), to purchase up to an aggregate of 1,000,000 shares of the Company s common stock at an exercise price of $0.79 per share.

The Pillar Warrants became exercisable immediately upon issuance. The Pillar I Warrants will expire if not exercised on or prior to the fifth anniversary from the date of issuance and the Additional Pillar Warrants will expire if not exercised on or prior to June 1, 2014. The Pillar I Warrants provide that, after the second anniversary of the date of issuance, the Company may redeem such Pillar I Warrants for $0.01 per share of common stock issuable on exercise of such Pillar I Warrants following notice to the holder thereof if the closing price of its common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 per share.

In addition, the Company agreed to file a registration statement to register the resale of the shares of common stock issuable upon exercise of the Pillar Warrants.

ITEM 2. ***MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.***

GENERAL

We are a clinical stage biotechnology company engaged in the discovery and development of novel synthetic DNA- and RNA-based drug candidates that are designed to modulate immune responses mediated through Toll-like Receptors, or TLRs. We are focusing our development efforts on the treatment of autoimmune and inflammatory diseases. We have two drug candidates, IMO-3100, a TLR7 and TLR9 antagonist, and IMO-8400, a TLR7, TLR8, and TLR9 antagonist, in clinical

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development for the treatment of autoimmune and inflammatory diseases. We have presented data from a Phase 2 clinical trial of IMO-3100 in patients with moderate to severe plaque psoriasis. We believe that the results of this trial provide clinical proof of concept for our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

TLRs are specific receptors present in immune system cells. Using a chemistry-based approach, we have created synthetic DNA- and RNA-based compounds that are targeted to TLR3, TLR7, TLR8, and TLR9. A TLR antagonist is a compound that blocks activation of an immune response through the targeted TLR. A TLR agonist is a compound that stimulates an immune response through the targeted TLR.

We believe that the modulation of immune responses through TLRs provides a rationale for the development of drug candidates to treat a broad range of diseases, including autoimmune and inflammatory diseases, cancer and respiratory diseases, and for use as vaccine adjuvants. We are a party to a collaboration alliance with Merck Sharp & Dohme Corp. (formerly Merck & Co., Inc.), or Merck & Co., for the use of agonists of TLR7, TLR8, and TLR9 as adjuvants in the development of vaccines for cancer, infectious diseases, and Alzheimer s disease. We are seeking to enter into additional collaborative alliances with third parties with respect to our TLR-targeted programs in oncology, hematological malignancies, respiratory diseases, and the use of TLR3 agonists as vaccine adjuvants.

We had cash and cash equivalents of approximately $6,149,000 at March 31, 2013. We believe that the net proceeds of our follow-on public offering of our securities in May 2013, together with our existing cash and cash equivalents, will enable us to fund our operations at least through the fourth quarter of 2014. We believe that our available funds following the May 2013 offering will be sufficient to enable us to conduct our planned Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. We will need to raise additional funds in order to conduct any other clinical development of IMO-3100 or IMO-8400 or to conduct any other development of our other product candidates or technologies. It is also possible that we will not achieve the progress that we expect with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays.

Autoimmune and Inflammatory Disease Program. We have presented data from a randomized double-blinded, placebo-controlled Phase 2 clinical trial of IMO-3100 that we conducted in 44 adult patients with moderate to severe plaque psoriasis. In this Phase 2 trial, patients received doses of IMO-3100 once weekly for four weeks. In addition, in this Phase 2 trial, IMO-3100 showed clinical activity in patients with psoriasis. We believe that the results of this trial provide clinical proof of concept for our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

We are conducting a Phase 1 clinical trial to evaluate the safety and pharmacodynamics of IMO-8400 in healthy subjects. This trial is being conducted at a single U.S. site. The first portion of the trial involved escalating single doses of IMO-8400 and the second portion of the trial involved four weekly doses of IMO-8400. During the first quarter of 2013, we completed the escalating single-dose portion of this trial. In this portion of the trial, IMO-8400 was well-tolerated and showed target engagement of TLR7, TLR8, and TLR9 in subjects treated with IMO-8400 compared to placebo. During the second quarter of 2013, we completed dosing in the multiple-dose portion of the trial. We plan to present data from this trial at a scientific conference in June 2013.

Based on the clinical activity of IMO-3100 observed in our four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis, we have determined that the next step in our development program is to conduct a Phase 2 clinical trial in patients with psoriasis with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR8 by IMO-8400, we have determined to focus our resources on the development of IMO-8400 and to conduct this trial in patients with psoriasis with IMO-8400. We expect to initiate this trial during the second quarter of 2013 and to have top-line data by the end of 2013.

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We are also planning to initiate a signal-seeking Phase 2 clinical trial of IMO-8400 in patients with lupus, and are considering conducting a proof-of-concept study of IMO-8400 in an orphan autoimmune disease indication. We expect to select the orphan autoimmune disease indication for further exploration in the second half of 2013. However, our plans to conduct the Phase 2 clinical trial of IMO-8400 in patients with lupus and the proof-of-concept study are subject to our ability to raise additional funding to fund the conduct of this trial and proof-of-concept study. We expect to seek such additional funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources.

Vaccine Adjuvant Collaboration. In January 2012, we announced that Merck & Co. had selected several of our TLR7, TLR8 or TLR 9 agonists for evaluation and use as vaccine adjuvant candidates in the fields of cancer, infectious diseases, and Alzheimer s disease.

Additional Programs. In addition to our TLR program in autoimmune and inflammatory diseases, and our collaboration with Merck & Co. for the use of TLR7, TLR8, and TLR9 agonists as vaccine adjuvants, we have identified TLR drug candidates for applications in the treatment of cancer, hematological malignancies and respiratory diseases, and created TLR3 agonists for use as vaccine adjuvants. We have also created gene silencing oligonucleotides, or GSOs, which are designed to inhibit the production of disease-associated proteins by targeting RNA. We believe our GSO technology provides us with a platform from which drug candidates for multiple disease indications can be developed. We are seeking to enter into collaborations with third parties to advance these drug candidates and technology platform. Except in connection with collaborations, we do not plan to expend any additional resources on these programs.

At March 31, 2013, we had an accumulated deficit of $398.5 million. We expect to incur substantial operating losses in future periods. We do not expect to generate significant product revenue, sales-based milestones or royalties until we successfully complete development and obtain marketing approval for drug candidates, either alone or in collaborations with third parties, which we expect will take a number of years. In order to commercialize our drug candidates, we need to complete clinical development and to comply with comprehensive regulatory requirements.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

This management s discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates and judgments, including those related to revenue recognition, stock-based compensation and our convertible preferred stock and related common stock warrants. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We regard an accounting estimate or assumption underlying our financial statements as a critical accounting estimate where:

- the nature of the estimate or assumption is material due to the level of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and

- the impact of the estimates and assumptions on financial condition or operating performance is material.

Our significant accounting policies are described in Note 2 of the notes to our financial statements in our Annual Report on Form 10-K for the year ended December 31, 2012. Not all of these significant policies, however, fit the definition of critical accounting policies and estimates. We believe that our accounting policies relating to revenue recognition, stock-based compensation and convertible preferred stock and related common stock warrants, as described under the caption Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Estimates in our Annual Report on Form 10-K for the year ended December 31, 2012, fit the description of critical accounting estimates and judgments. There were no changes in these policies during the three months ended March 31, 2013.

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RESULTS OF OPERATIONS

Three Months Ended March 31, 2013

Alliance Revenue

Alliance revenue consisted of reimbursement by licensees of costs associated with patent maintenance, amounting to $7,000 and $9,000 in the three months ended March 31, 2013 and 2012, respectively.

Research and Development Expenses

Research and development expenses decreased by $1,485,000, or 39%, from $3,813,000 for the three months ended March 31, 2012, to $2,328,000 for the three months ended March 31, 2013. In the following table, research and development expense is set forth in the following four categories which are discussed beneath the table:

	Three Months Ended March 31, (in thousands)		Percentage Increase (Decrease)
	2013	2012	
IMO-8400 external development expense	$ 600	$	%
IMO-3100 external development expense	274	239	15%
Other drug development expense	635	2,024	(69)%
Basic discovery expense	819	1,550	(47)%
	$ 2,328	$ 3,813	(39)%

IMO-8400 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-8400 since October 2012, when we commenced clinical development of IMO-8400. These external expenses include payments to independent contractors and vendors for drug development activities conducted after the initiation of IMO-8400 clinical development but exclude internal costs such as payroll and overhead expenses. Since October 2012, we have incurred approximately $1,088,000 in external development expenses through March 31, 2013, including costs associated with our Phase 1 clinical trial in healthy subjects that we initiated in 2012, preparation for a Phase 2 clinical trial in patients with psoriasis, and additional nonclinical studies. We classified the IMO-8400 external development expenses incurred prior to October 2012 as Other Drug Development Expenses.

In the fourth quarter of 2012, we initiated a Phase 1 clinical trial of IMO-8400 in healthy subjects. The primary objectives of this Phase 1 clinical trial are to evaluate the safety and pharmacodynamics of IMO-8400. This trial is being conducted at a single U.S. site. The first portion of the trial involved escalating single doses of IMO-8400 administered by subcutaneous injection and the second portion of the trial involved IMO-8400 administered once per week for four weeks. During the first quarter of 2013, we completed the escalating single-dose portion of this trial. In this portion of the trial, IMO-8400 was well-tolerated and showed target engagement of TLR7, TLR8, and TLR9 in subjects treated with IMO-8400 compared to placebo. During the second quarter of 2013, we completed dosing in the multiple-dose portion of the trial. We plan to present data from this trial at a scientific conference in June 2013.

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Based on the clinical activity of IMO-3100 observed in our four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis, we have determined that the next step in our development program is to conduct a Phase 2 clinical trial in patients with psoriasis to, among other things, evaluate the clinical activity of IMO-8400 with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR8 by IMO-8400, we have determined to focus our resources on the development of IMO-8400 and to conduct this trial in patients with psoriasis with IMO-8400. In March 2013, we submitted the proposed protocol for this trial to the regulatory authorities in the Netherlands for review and we received a no objection clearance from the Centrale Commissie Mensgebonden Onderzoek. Under the protocol, 32 adult patients with moderate to severe plaque psoriasis, as indicated by a score of 12.5 or greater on the Psoriasis Area Severity Index, or PASI, would be randomized into one of four cohorts and receive placebo or IMO-8400 at a dose level of 0.075, 0.15, or 0.3 mg/kg/week for 12 weeks, with a six-week follow-up period. We expect to initiate this trial in the second quarter of 2013 and to have top-line date by the end of the 2013.

We are also planning to initiate a signal-seeking Phase 2 clinical trial of IMO-8400 in patients with lupus, and are considering conducting a proof-of-concept study of IMO-8400 in an orphan autoimmune disease indication. We expect to select the orphan autoimmune disease indication for further exploration in the second half of 2013. However, our plans to conduct the Phase 2 clinical trial of IMO-8400 in patients with lupus and the proof-of-concept study are subject to our ability to raise additional funding to fund the conduct of this Phase 2 trial and proof-of-concept study. We expect to seek such additional funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources.

IMO-3100 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-3100 since November 2009, when we commenced clinical development of IMO-3100. These external expenses include payments to independent contractors and vendors for drug development activities conducted after the initiation of IMO-3100 clinical development but exclude internal costs such as payroll and overhead expenses. We incurred approximately $10,218,000 in external development expenses from November 2009 through March 31, 2013, including costs associated with our clinical trials, manufacturing and process development activities related to the production of IMO-3100, and additional nonclinical toxicology studies.

IMO-3100 expenses during both the three months ended March 31, 2013 and the three months ended March 31, 2012 related primarily to our Phase 2 clinical trial to evaluate IMO-3100 in patients with psoriasis over a four-week period. The costs related to our Phase 2 clinical trial were higher in the three months ended March 31, 2013, as compared to the three months ended March 31, 2012. In the three months ended March 31, 2013, IMO-3100 expenses consisted of payments to the central laboratory for immunological analysis of RNA isolated from clinical samples, data analysis and trial close-out activities. In the three months ended March 31, 2012, our costs were related to our preparation for the initiation of our Phase 2 clinical trial.

In the second quarter of 2012, we initiated a randomized, double-blind, placebo-controlled Phase 2 clinical trial of IMO-3100 in adult patients with moderate-to-severe plaque psoriasis. In the trial, 44 patients at 11 centers in the United States were randomized on a 1:1:1 basis to receive IMO-3100 monotherapy at a dose level of either 0.16 or 0.32 mg/kg or placebo by subcutaneous injection once weekly for four weeks with a four-week follow-up period. Patients were treated on Days 1, 8, 15, and 22, and were monitored during the treatment period and the follow-up period through approximately Day 57. Assessments of safety were performed throughout the trial. Multiple parameters were monitored to assess the clinical activity of IMO-3100, including PASI scores. In addition to the clinical assessments, biopsies were evaluated for treatment-related changes in epidermal thickness and immune cell infiltrates. PASI scores were monitored during the treatment period on Days 1, 15, and 29, and during the follow-up period on Days 36 and 57. Skin biopsies were collected prior to treatment on Day 1 and on Day 29.

The objectives of the Phase 2 trial of IMO-3100 were to evaluate the safety and tolerability and to evaluate the clinical activity of TLR antagonism in patients with psoriasis after four weeks of treatment. Top-line data from this trial were announced in December 2012. Full data from this trial were presented at the International Investigative Dermatology meeting in Edinburgh, Scotland in May 2013:

Safety:

- Treatment with IMO-3100 was well tolerated at both dose levels studied
- There were no treatment-related discontinuations or changes in laboratory parameters

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Clinical Activity:

- On day 57, 48% of patients treated with either dose of IMO-3100 (12 of 25) demonstrated statistically significant improvements of 35% to 90% from baseline PASI scores compared with 0 of 12 in the placebo cohort ($p<0.005$)
- Rapid improvement in PASI scores was observed as early as Day 15 in IMO-3100 treated patients compared to placebo-treated patients; improvement in PASI was sustained through five weeks after the last dose
- The pre-specified clinical endpoint of reduction in PASI score at day 29 was achieved with statistical significance in the 0.16 mg/kg cohort ($p<0.02$ compared to placebo) but not in the 0.32 mg/kg cohort
- PASI 50 was achieved in 7 of 25 patients treated with IMO-3100 (3 of 12 at 0.16 mg/kg and 4 of 13 at 0.32 mg/kg), compared to 0 of 12 placebo treated patients ($p<0.05$); PASI 75 was achieved in 1 patient in each IMO-3100 cohort during the trial period
- The pre-specified clinical endpoint of improvement in induration, a measure of plaque thickness, at day 29, was achieved with statistical significance in the 0.16 mg/kg cohort ($p<0.02$) compared to placebo-treated patients

Mechanism of Action Based on Analysis of Skin Biopsies:

- Median change in epidermal thickness (the histologically defined primary endpoint of the trial) was -6.4% in IMO-3100 treated patients compared to +7.7% in placebo treated patients, representing a favorable, but not statistically significant, trend. Because the histology endpoint was not statistically significant, the primary endpoint of this trial was not achieved. A known limitation of skin biopsies after four weeks of treatment is that psoriatic plaques do not resolve in a uniform fashion, and therefore, biopsies may not provide a representative sampling of lesions.
- Representative patients treated with IMO-3100 showed K16 staining (marker of keratinocyte proliferation) reverting toward normal and decreasing infiltrates of CD3+ lymphocytes and CD11c+ cells.
- DNA microarray analysis of biopsies from the IMO-3100 treated patients compared to placebo treated patients (n=6 each) showed significant improvement ($p<10^{-6}$) in psoriasis disease-associated genes and of genes unique to the IL-17 pathway, which is central to the pathogenesis of psoriasis.

We believe that the results of this trial provide clinical proof of concept of our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

Other Drug Development Expenses. These expenses include external expenses associated with preclinical development of identified compounds in anticipation of advancing these compounds into clinical development. In addition, these expenses include internal costs, such as payroll and overhead expenses, associated with preclinical development and products in clinical development. The external expenses associated with preclinical compounds include payments to contract vendors for manufacturing and the related stability studies, preclinical studies, including animal toxicology and pharmacology studies, and professional fees. Internal expenses associated with products in clinical development include costs associated with our Autoimmune Disease Scientific Advisory Board.

The decrease in other drug development expenses in the three months ended March 31, 2013, as compared to the three months ended March 31, 2012, was primarily due to costs incurred during the three months ended March 31, 2012 for nonclinical safety studies and manufacture of drug supply to support the IND for IMO-8400 that we submitted during the third quarter of 2012. Costs associated with the clinical development of IMO-8400 are included in IMO-8400 External Development Expenses in the three months ended March 31, 2013.

Basic Discovery Expenses. These expenses include our internal and external expenses relating to our discovery efforts with respect to our TLR-targeted programs, including agonists and antagonists of TLR3, TLR7, TLR8, and TLR9, TLR antisense, and gene silencing oligonucleotides. These expenses reflect payments for laboratory supplies, external research, and professional fees, as well as payroll and overhead expenses. The decrease in basic discovery expenses in the three

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months ended March 31, 2013, as compared to the three months ended March 31, 2012, was primarily due to decreases in the cost of laboratory supplies and employee compensation reflecting reduced activity and reduced headcount resulting from our September 2011 re-assessment and prioritization of our drug development programs.

We do not know if we will be successful in developing any drug candidate from our research and development programs. At this time, and without knowing the outcome of our ongoing Phase 1 clinical trial of IMO-8400, and without an established plan for future clinical tests of drug candidates, we cannot reasonably estimate or know the nature, timing, and costs of the efforts that will be necessary to complete the remainder of the development of, or the period, if any, in which material net cash inflows may commence from, any drug candidate from our research and development programs. Moreover, the clinical development of any drug candidate from our research and development programs is subject to numerous risks and uncertainties associated with the duration and cost of clinical trials, which vary significantly over the life of a project as a result of unanticipated events arising during clinical development.

General and Administrative Expenses

General and administrative expenses decreased by $162,000, or 10%, from $1,689,000 in the three months ended March 31, 2012, to $1,527,000 in the three months ended March 31, 2013. General and administrative expenses consist primarily of salary expense, stock compensation expense, consulting fees and professional legal fees associated with our patent applications and maintenance, our corporate regulatory filing requirements, our corporate legal matters, and our business development initiatives. The decrease in general and administration expenses during the three months ended March 31, 2013, as compared to the three months ended March 31, 2012, was primarily due to lower legal costs associated with patent matters and lower employee compensation due to a decrease in stock based compensation during the three months ended March 31, 2013. These decreases were partially offset by higher corporate legal expenses associated with our corporate regulatory filing requirements.

Increase in Fair Value of Warrant Liability

During November 2011 we recorded a warrant liability reflecting the fair value of the Series D warrants issued in our November 2011 Series D financing. We determined the Series D warrants to be a derivative instrument because they contained a specified anti-dilution provision that did not meet the indexed to the company s own stock exemption requirements in Accounting Standards Codification 815-40, Derivatives and Hedging Contracts in an Entity s own Stock, ASC 815-40. The Series D warrants were classified as a liability, recorded at fair value as of the transaction date and marked to fair value through earnings each quarter. The fair value of the Series D warrants increased from $1,178,000 at December 31, 2011 to $2,499,000 at March 31, 2012 primarily due to an increase in the market price of our common stock. The increase in the fair value of the warrant liability resulted in the recognition of a $1,321,000 non-operating expense in the three months ended March 31, 2012.

The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D warrants, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. Once the exercise price of the Series D warrants became fixed, the Series D warrants then met the exception under ASC 815-40 as they were now indexed to the company s own stock and met certain criteria for equity classification, thus we marked the Series D warrants to fair value through earnings as of November 9, 2012, and we then reclassified the remaining $503,000 Series D warrant liability to stockholders equity at that time. Consequently, we did not record any non-operating income or expense related to the Series D warrants during the three months ended March 31, 2013.

Investment Income, Net

Investment income was a negligible amount in the three months ended March 31, 2013 and 2012 because most of our invested funds have been deposited in a money market fund which pays minimal interest.

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Foreign Currency Exchange Gain (Loss)

Our $39,000 foreign currency exchange gain during the three months ended March 31, 2013 was primarily due to the impact that the increasing value of the U.S. dollar had on our Euro-denominated accrued liabilities. Our foreign currency exchange loss amounted to $76,000 in the three months ended March 31, 2012 primarily due to the impact that the decreasing value of the U.S. dollar had on our Euro-denominated accrued liabilities.

Preferred Stock Dividends

The $279,000 in preferred stock dividends in the three months ended March 31, 2013 consists of $211,000 in dividends payable on shares of our Series D preferred stock that we issued in November 2011 and $68,000 in dividends payable on shares of our Series E preferred stock that we issued in November 2012. The $160,000 in preferred stock dividends in the three months ended March 31, 2012 consists of dividends payable on shares of our Series D preferred stock. The dividends payable to the Series D stockholders increased in the three months ended March 31, 2013, as compared to the three months ended March 31, 2012, because the terms of the Series D preferred stock require that dividends that we pay to the Series E preferred stockholders also be paid to the Series D preferred stockholders on an as-converted to common stock basis.

Net Loss Applicable to Common Stockholders

As a result of the factors discussed above, our net loss applicable to common stockholders was $4,086,000 for the three months ended March 31, 2013, compared to $7,046,000 for the three months ended March 31, 2012. Since January 1, 2001, we have primarily been involved in the development of our TLR pipeline. From January 1, 2001 through March 31, 2013, we incurred losses of $138,272,000. We also incurred net losses of $260,193,000 prior to December 31, 2000 during which time we were primarily involved in the development of non-TLR targeted antisense technology. Since our inception, we had an accumulated deficit of $398,465,000 through March 31, 2013. We expect to continue to incur substantial operating losses in the future.

LIQUIDITY AND CAPITAL RESOURCES

Sources of Liquidity

We require cash to fund our operating expenses and to make capital expenditures. Historically, we have funded our cash requirements primarily through the following:

- equity and debt financing;
- license fees, research funding and milestone payments under collaborative and license agreements;
- interest income; and
- lease financings.

Follow-on Public Offering

On May 7, 2013, we closed a follow-on public offering, in which we sold 17,500,000 shares of common stock, together with warrants to purchase up to 17,500,000 shares of our common stock, at a combined price to the public of $0.50 per share and related warrant, and pre-funded warrants to purchase up to 15,816,327 shares of common stock, together with warrants to purchase up to 15,816,327 shares of common stock, at a combined price to the public of $0.49 per pre-funded warrant share and related warrant, for aggregate gross proceeds of $16.5 million.

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The warrants have an exercise price of $0.47 per share of common stock and are exercisable for a period of five years from May 7, 2013 and the pre-funded warrants have an exercise price of $0.01 per share of common stock and are exercisable for a period of seven years from May 7, 2013. The warrants and the pre-funded warrants each provide that, after the second anniversary of the date of issuance, we may redeem the warrants for $0.01 per share of common stock issuable on exercise of the warrants following 30 days prior written notice to the holder if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80.

The net proceeds to us from the offering, after deducting underwriters discounts and commissions and other offering costs and expenses and excluding the proceeds of the future exercise of the warrants, if any, were approximately $14.7 million.

Series E Preferred Stock and Warrant Financing

In November 2012, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Series E Purchase Agreement, for the issuance and sale of shares of Series E preferred stock and Series E warrants, with Pillar Pharmaceuticals II L.P., or Pillar II, and a second purchaser, which we refer to as the Series E purchasers. Pillar II is an investment partnership managed by two of our directors and one of our significant stockholders. Under the Series E Purchase Agreement, we issued and sold to the Series E purchasers, for an aggregate purchase price of approximately $7,000,000, 424,242 shares of Series E preferred stock and Series E warrants to purchase up to 8,484,840 shares of common stock. The shares of Series E preferred stock are convertible, subject to limitations, into an aggregate of 8,484,840 shares of common stock at a conversion price of $0.70 per share. The initial exercise price of the warrants is $0.70 per share. The warrants to purchase common stock are exercisable immediately, and will expire if not exercised on or prior to November 9, 2017. We have agreed to pay to the Series E preferred stockholders quarterly dividends payable in cash in arrears at the rate of 4.6% per annum with the first dividend payment being due on March 31, 2013. Under the terms of the Series D preferred stock, any dividends that we pay to the Series E preferred stockholders will also be paid to the Series D preferred stockholders on an as-converted to common stock basis. We have agreed that, at our 2013 annual meeting of stockholders, we will propose an amendment to the Certificate of Designations, Preferences and Rights of Series D preferred stock, or the Series D Certificate of Designations, which is described below, to, among other things, modify the terms of the Series D preferred stock that currently require payment of dividends to Series D preferred stockholders upon payment of dividends to Series E stockholders. If such amendment is approved by our stockholders, the Series E preferred stockholders would become entitled to receive dividends payable in cash quarterly in arrears at the rate of 8% per annum and the Series D preferred stockholders would cease to be entitled to corresponding dividends. If such amendment is submitted to our stockholders and it is not approved, the holders of the Series E preferred stock will no longer be entitled to receive dividends. The net proceeds to us from the Series E financing, excluding the proceeds of any future exercise of the Series E warrants, were approximately $5.9 million.

Under the terms of the Series E Purchase Agreement, we granted the Series E purchasers participation rights in future financings. In addition, we agreed to use our best efforts to file a preliminary proxy statement for our next annual meeting of stockholders that will, among other things, seek approval from our stockholders of the following matters:

- the issuance and sale by us to the Series E purchasers (together with all prior issuances and sales to Pillar Pharmaceuticals I, L.P. , or Pillar I, an investment partnership managed by one of our directors and significant stockholders) of a number of shares of common stock (including securities convertible into or exercisable for common stock) that is greater than 19.99% of our outstanding common stock or our outstanding voting power after such issuance and sale in accordance with Nasdaq Listing Rule 5635(b), or the Nasdaq Proposal;

- an amendment to our restated certificate of incorporation and bylaws, as necessary, to eliminate the classification of our board of directors; and

- an amendment to the Series D Certificate of Designations for our Series D preferred stock, which is held by Pillar I, to modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the holders of Series D preferred stock and to conform the beneficial ownership limitations applicable to the conversion of the Series D preferred stock to the beneficial ownership limitations applicable to the conversion of the Series E preferred stock.

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Also under the terms of the Series E Purchase Agreement, each Series E purchaser agreed:

- for so long as the Series E purchaser and its affiliates beneficially own more than 19.99% (prior to the date our stockholders approve the Nasdaq Proposal) or 25% (effective upon the date that our stockholders approve the Nasdaq Proposal) of our outstanding common stock, that the Series E purchaser and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion or exercise of securities that are convertible into or exercisable for shares of common stock held by such Series E purchaser and its affiliates) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than the Series E purchasers) vote on such matter;

- to certain restrictions on the transfer of any securities issued to such Series E purchaser pursuant to the Series E Purchase Agreement, including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer more than 5% of the then outstanding combined voting power of our outstanding securities (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering by us that has been approved by the board of directors); and

- to be subject to a standstill provision that continues for so long as such Series E purchaser and its affiliates beneficially own more than 15% of our outstanding common stock.

After the later of November 9, 2014 and the date that no shares of Series D preferred stock remain outstanding, we may redeem all or a portion of the Series E preferred stock for a cash payment equal to the $14.00 original Series E preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon following notice to the holders of the Series E preferred stock if the closing price of the Common Stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 400% of the Series E preferred stock conversion price. We may not redeem any shares of Series E preferred stock from a holder that cannot convert such shares of Series E preferred stock into common stock as a result of the beneficial ownership limitations described above. In such event, we may redeem such nonredeemable shares pursuant to alternative redemption provisions set forth in the Certificate of Designations, Preferences and Rights of Series E Preferred Stock, or Series E Certificate of Designations, following notice to the holders of the nonredeemable shares, for a cash payment equal to the greater of the 20 consecutive trading day average closing price per share of the common stock ending on the trading day immediately prior to redemption date plus any dividends accrued or declared but unpaid thereon and the Series E conversion price plus any dividends accrued or declared but unpaid thereon. After November 9, 2014, we may redeem the Series E warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to the Series E purchasers if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80, subject to adjustment.

In connection with the Series E Purchase Agreement, we filed a registration statement that became effective on January 17, 2013, registering the resale of the shares of common stock issuable upon conversion of the Series E preferred stock and the shares of common stock issuable upon exercise of the Series E warrants.

In April 2013, the Company entered into two agreements, which we refer to collectively as the Pillar Agreements, with Pillar I, Pillar II and an entity affiliated with Pillar I and Pillar II, together the Pillar Entities. The agreements, including our obligations to issue the warrants under the Pillar Agreements, became effective upon the consummation of our underwritten public offering on May 7, 2013.

Under the first agreement, which we refer to as the April 22, 2013 Pillar Agreement, we and each of Pillar I and Pillar II agreed, among other things, to:

- modify the dividend provisions of the Series E Certificate of Designations to allow for the payment of dividends in shares of our common stock commencing October 1, 2013; and

- allow for the payment of dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership and voting

power limitations set forth in the Series E Certificate of Designations.

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In addition, under the second agreement, which we refer to as the April 30, 2013 Pillar Agreement, Pillar II and the entity affiliated with Pillar I and Pillar II, together the holders of 100% of the Series E preferred stock, irrevocably waived the right of the holders of the Series E preferred stock under Section 2.1.1 of the Series E Certificate of Designations to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of our company, or Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series E preferred stock will receive under Section 2.1 of the Series E Certificate of Designations an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

Under the Pillar Agreements, we agreed to seek approval from our stockholders at our 2013 annual meeting of stockholders of amendments to the Series E Certificate of Designations to effect these changes to the dividend and liquidation provisions of our Series E preferred stock, and Pillar II and its affiliated entity agreed:

- to vote, and to cause its affiliates to vote, all shares of our voting stock held by Pillar II or its affiliates, and over which Pillar II or its affiliates has the power to vote, in favor of such amendments; and

- not to, and to cause its affiliates not to, sell or transfer any shares of our common stock or Series E preferred stock held by Pillar II or its affiliates to any person, entity or group unless such proposed transferee agrees in a written instrument executed by such transferee, Pillar II and us to take and hold such securities subject to, among other things, the Pillar Agreements and to be bound by the terms of the Pillar Agreements, including the waiver of rights, voting agreements and restrictions on transfer set forth therein.

Under the April 22, 2013 Pillar Agreement, in consideration of the agreements of Pillar I and Pillar II under the April 22, 2013 Pillar Agreement and the delivery of the waiver by Pillar I, and for no additional cash consideration, we issued to Pillar I warrants, the Pillar I Warrants, to purchase up to 1,000,000 shares of our common stock at an exercise price of $0.61 per share.

In addition, under the April 30, 2013 Pillar Agreement, in consideration of the agreements of the Pillar Entities under the April 30, 2013 Pillar Agreement and the delivery of the waivers by the Pillar Entities, and for no additional cash consideration, we issued to the Pillar Entities warrants, the Additional Pillar Warrants, and together with the Pillar I Warrants, the Pillar Warrants, to purchase up to an aggregate of 1,000,000 shares of our common stock at an exercise price of $0.79 per share.

Cowen Sales Agreement

In April 2012, we entered into a sales agreement with Cowen pursuant to which we may issue and sell shares of our common stock, having an aggregate offering price of up to $10.0 million from time to time through Cowen as our sales agent. Cowen may sell our common stock by methods deemed to be an at-the-market offering, as defined under the Securities Act, including sales made directly on the Nasdaq Capital Market, on any other existing trading market for our common stock or to or through a market maker other than on an exchange. With our prior written approval, Cowen may also sell our common stock by any other method permitted by law, including in privately negotiated transactions.

Cowen has agreed to offer the common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and Cowen. Under the arrangement, we will designate the maximum amount of our common stock to be sold through Cowen on a daily basis or otherwise determine such maximum amount together with Cowen. Subject to the terms and conditions of the sales agreement, Cowen has agreed to use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct Cowen not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. We or Cowen may suspend the offering of the common stock being made through Cowen under the sales agreement upon proper notice to the other party. We and Cowen each have the right, by giving written notice as specified in the sales agreement, to terminate the sales agreement in each party s sole discretion at any time.

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The sales agreement provides that Cowen will be entitled to aggregate compensation for its services equal to 3.0% of the gross sales price per share of all shares sold through Cowen under the sales agreement. We have no obligation to sell any shares under the sales agreement. We have agreed in the sales agreement to provide indemnification and contribution to Cowen against certain liabilities, including liabilities under the Securities Act. In addition, we have agreed, under certain circumstances, to reimburse a portion of the expenses of Cowen in connection with the offering of common stock up to a maximum of $50,000. The shares will be issued pursuant to our shelf registration statement on Form S 3 (File No. 333-169060).

We had not sold any shares under the sales agreement as of April 15, 2013.

Series D Preferred Stock and Warrant Financing

In November 2011, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Series D Purchase Agreement, with Pillar I. The Series D Purchase Agreement was amended in November 2012 in connection with the Series E financing. Under the Series D Purchase Agreement, we issued and sold to Pillar I, for an aggregate purchase price of $9,500,000, 1,124,260 shares of our Series D preferred stock and Series D warrants to purchase up to 2,810,650 shares of our common stock. The shares of Series D preferred stock were initially convertible, subject to limitations, into 5,621,300 shares of our common stock at an initial conversion price of $1.63. The initial exercise price of the warrants was $1.63 per share.

The net proceeds to us from the offering, excluding the proceeds of any future exercise of the Series D warrants, were approximately $9,073,000. No holder of the Series D preferred stock may convert its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of the common stock outstanding. As a result of the dilutive effect of our November 2012 Series E financing, the 1,124,260 shares of our Series D preferred stock became convertible, subject to limitations, into 6,266,175 shares of our common stock and the exercise price of the Series D warrants became fixed at $1.46 per share.

The Series D Purchase Agreement was amended in connection with the Series E financing to provide:

- for so long as Pillar I and its affiliates beneficially own more than 19.99% (prior to the date the stockholders of the Company approve the Nasdaq Proposal) or 25% (effective upon the date that the stockholders of the Company approve the Nasdaq Proposal) of the outstanding common stock, that Pillar I and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion of securities convertible into or exercisable for shares of common stock held by Pillar I and its affiliates) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than the Series E purchasers and their affiliates) vote on such matter; and

- for certain restrictions on the transfer of any securities issued to Pillar I (including securities convertible into or exercisable for common stock) pursuant to the Series D Purchase Agreement, including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer of more than 5% of the then outstanding combined voting power of the outstanding securities of the Company (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering by the Company that has been approved by our board of directors).

The Series D preferred stockholders are entitled to receive dividends payable quarterly in arrears at the rate of 7% per annum. Such dividends shall be paid in cash through December 31, 2014 and thereafter in cash or with shares of common stock, as determined by us in our sole discretion, except that we may not pay any dividends to a holder of Series D preferred stock in shares of common stock to the extent the issuance of such shares would result in the holder of Series D preferred stock and its affiliates beneficially owning more than 19.99% (prior to the date the stockholders of the Company approve the Nasdaq Proposal) or 35% (effective upon the date that the stockholders of the Company approve the Nasdaq Proposal) of the common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to

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the issuance of such shares of common stock. We have agreed to pay to the Series E preferred stockholders quarterly dividends payable in cash in arrears at the rate of 4.6% per annum with the first dividend payment being due on March 31, 2013. Under the terms of the Series D preferred stock, any dividends that we pay to the Series E preferred stockholders will also be paid to the Series D preferred stockholders on an as-converted to common stock basis. We have agreed that, at our 2013 annual meeting of stockholders, we will propose an amendment to the Series D Certificate of Designations to, among other things, modify the terms of the Series D preferred stock that currently require payment of dividends to Series D preferred stockholders upon payment of dividends to Series E stockholders. If such amendment is approved by our stockholders, the Series E preferred stockholders would become entitled to receive dividends payable in cash quarterly in arrears at the rate of 8% per annum and the Series D preferred stockholders would cease to be entitled to corresponding dividends. If such amendment is submitted to our stockholders and it is not approved, the holders of the Series E preferred stock will no longer be entitled to receive dividends.

After November 4, 2013 and following written notice by us, we may redeem, for a cash payment equal to the $8.1375 original Series D preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon, all or a portion of the Series D preferred stock if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 200% of the Series D preferred stock conversion price. In addition, the holders of shares of Series D preferred stock then outstanding are entitled to require us to purchase the shares of Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of the Company or successor entity.

Under the terms of the Series D Purchase Agreement, Pillar I agreed to be subject to a standstill provision that continues for so long as Pillar I and its affiliates beneficially own more than 15% of our outstanding common stock.

The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D warrants, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. The Series D warrants may be exercised at Pillar I s option at any time on or before November 4, 2016. The Series D warrants, as amended in connection with the November 2012 Series E financing, provide that the Series D warrants may not be exercised with respect to any portion of the warrants, to the extent that such exercise would result in Pillar I and its affiliates beneficially owning more than 19.99% of the number of shares of common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the Series D warrants, unless our stockholders approve the Nasdaq Proposal, in which case, the 19.99% limitation will be increased, with respect to Pillar I, to 35%. After November 4, 2013, we may redeem the Series D warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to Pillar I if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $6.51, subject to adjustment.

In connection with the Series D Purchase Agreement, we also filed a registration statement that became effective on December 21, 2011, registering the resale of the shares of common stock issuable upon conversion of the Series D preferred stock and the shares of common stock issuable upon exercise of the Series D warrants. In February 2013, we filed a registration statement that became effective on February 8, 2013 covering the resale of additional shares of common stock issuable upon conversion of the Series D preferred stock.

Under the April 22, 2013 Pillar Agreement, Pillar I irrevocably waived and agreed to not exercise the rights, powers, preferences and other terms of the Series D preferred stock under Section 6 of the Series D Certificate of Designations, including without limitation the right to require us to purchase all or any portion of the shares of our Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of the Company or successor entity.

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In addition, under the April 22, 2013 Pillar Agreement, we and each of Pillar I and Pillar II agreed, among other things, to:

- modify the dividend provisions of the Series D Certificate of Designations to change the date after which we may elect to pay dividends in shares of our common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership and voting power limitations set forth in the Series D Certificate of Designations; and

- in connection with the waiver of the right to require us to purchase the Series D preferred stock upon the occurrence of specified fundamental changes, to modify the Series D Certificate of Designations to provide, in the event of a sale of our company, for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A convertible preferred stock and any other class of our capital stock that ranks senior to our Series D preferred stock, to the holders of our Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and such new series of non-voting preferred stock.

Under the April 30, 2013 Pillar Agreement, Pillar I irrevocably waived the right of the holders of the Series D preferred stock under Section 2.1 of the Series D Certificate of Designations to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company, or Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

In addition, under the Pillar Agreements, we agreed to seek approval from our stockholders at our 2013 annual meeting of stockholders of amendments to the Series D Certificate of Designations to effect these changes to the dividend and liquidation provisions of our Series D preferred stock, the redemption rights of the holders of our Series D preferred stock and the rights of the holders of our Series D preferred stock to distributions in the event of a sale of our company, and Pillar I has agreed:

- to vote, and to cause its affiliates to vote, all shares of our voting stock held by Pillar I or its affiliates, and over which Pillar I or its affiliates has the power to vote, in favor of such amendments; and

- not to, and to cause its affiliates not to, sell or transfer any shares of our common stock or Series D preferred stock held by Pillar I or its affiliates to any person, entity or group unless such proposed transferee agrees in a written instrument executed by such transferee, Pillar I and us to take and hold such securities subject to, among other things, the Pillar Agreements and to be bound by the terms of the Pillar Agreements, including the waivers of rights, voting agreements and restrictions on transfer set forth therein.

The Pillar Agreements, including our obligations to issue the Pillar Warrants under the Pillar Agreements, became effective upon the consummation of our follow-on public offering of our securities on May 7, 2013.

Collaboration Agreements

Under the terms of our collaboration with Merck KGaA, which was terminated in November 2011, we received in February 2008 a $40.0 million upfront license fee in Euros of which we received $39.7 million due to foreign currency exchange rates and approximately $12.1 million in milestone payments. In addition, Merck KGaA reimbursed us $4.5 million for expenses related to the development of IMO-2055. In connection with the termination of the collaboration, we agreed to reimburse Merck KGaA for up to 1.8 million ($2.3 million using a March 31, 2013 exchange rate) of Merck KGaA s costs for the third-party contract research organization that was coordinating Merck KGaA s Phase 2 trial of IMO-

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2055 in combination with cetuximab, payable in eleven installments commencing on March 1, 2012 including a final payment payable upon Merck KGaA s completion of certain specified activities. As of March 31, 2013, we have paid 0.8 of the 1.8 million ($1.1 million (using exchange rates in effect at the time that the payments were made) of the $2.3 million). We also agreed to pay to Merck KGaA one-time 1.0 million ($1.3 million using a March 31, 2013 exchange rate) milestone payments upon the occurrence of each of the following milestones: partnering of IMO-2055 with any third party, initiation of any Phase 2 or Phase 3 clinical trial for IMO-2055 and regulatory submission of IMO-2055 in any country.

Under the terms of our collaboration with Merck & Co., Merck & Co. paid us a $20.0 million license fee in December 2006 and purchased 1,818,182 shares of our common stock for a price of $5.50 per share for an aggregate purchase price of $10.0 million. Since entering this agreement, we have also received $1.0 million in milestone payments and $3.4 million in research and development payments.

Cash Flows

Three Months Ended March 31, 2013

As of March 31, 2013, we had approximately $6,149,000 in cash and cash equivalents, a net decrease of approximately $3,947,000 from December 31, 2012. Net cash used in operating activities totaled $3,699,000 during the three months ended March 31, 2013, reflecting our $3,807,000 net loss, as adjusted for non-cash income and expenses, including stock-based compensation and depreciation. It also reflects changes in our prepaid expenses and accounts payable, accrued expenses and other liabilities.

The $247,000 net cash used by financing activities during the three months ended March 31, 2013 primarily reflects dividends paid on our Series D preferred stock and payments on our capital lease offset, in part, by the proceeds received from employee stock purchases.

Three Months Ended March 31, 2012

Net cash used in operating activities totaled $5,883,000 during the three months ended March 31, 2012, reflecting our $6,886,000 net loss for the three months ended March, 31, 2012, as adjusted for non-cash expenses, including the increase in the warrant liability, stock-based compensation, depreciation expense and amortization. It also reflects changes in our prepaid expenses and accounts payable, accrued expenses and other liabilities.

The net cash provided by financing activities totaled $1,000 during the three months ended March 31, 2012 representing the proceeds received from employee stock purchases under our employee stock purchase plan. We had no cash provided by investing activities during the three months ended March 31, 2012.

Funding Requirements

We have incurred operating losses in all fiscal years except 2002, 2008 and 2009, and we had an accumulated deficit of $398,465,000 at March 31, 2013. We expect to incur substantial operating losses in future periods. These losses, among other things, have had and will continue to have an adverse effect on our stockholders (deficit) equity, total assets and working capital.

We have received no revenues from the sale of drugs. As of April 15, 2013, almost all of our revenues have been from collaboration and license agreements. We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any drugs. Because of the numerous risks and uncertainties associated with developing drugs, we are unable to predict the extent of any future losses, whether or when any of our products will become commercially available or when we will become profitable, if at all.

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We do not expect to generate significant additional funds internally until we successfully complete development and obtain marketing approval for products, either alone or in collaboration with third parties, which we expect will take a number of years. In addition, we have no committed external sources of funds.

We had cash and cash equivalents of approximately $6,149,000 at March 31, 2013. We believe that the net proceeds of our follow-on public offering of our securities in May 2013, together with our existing cash and cash equivalents, will enable us to fund our operations at least through the fourth quarter of 2014. We believe that our available funds following the May 2013 offering will be sufficient to enable us to conduct our planned Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. We will need to raise additional funds in order to conduct any other clinical development of IMO-3100 or IMO-8400 or to conduct any other development of our other product candidates or technologies. It is also possible that we will not achieve the progress that we expect with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays.

We expect that we will require substantial additional funds to conduct research and development, including preclinical testing and clinical trials of our drug candidates and to fund our operations. We are seeking and expect to continue to seek additional funding through collaborations, the sale or license of assets or financings of equity or debt securities. We believe that the key factors that will affect our ability to obtain funding are:

- the results of our clinical and preclinical development programs, including the results of the ongoing Phase 1 clinical trial of IMO-8400 and the results of the planned Phase 2 clinical trial of IMO-8400 in patients with moderate to severe plaque psoriasis;
- developments relating to our existing strategic collaboration with Merck & Co.;
- our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;
- the cost, timing and outcome of regulatory reviews;
- competitive and potentially competitive products and technologies and investors receptivity to our drug candidates and the technology underlying them in light of competitive products and technologies;
- the receptivity of the capital markets to financings by biotechnology companies generally and companies with drug candidates and technologies such as ours specifically; and
- our ability to enter into new strategic collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

In addition, increases in expenses or delays in clinical development may adversely impact our cash position and require additional funds or further cost reductions. Financing may not be available to us when we need it or may not be available to us on favorable or acceptable terms. We could be required to seek funds through collaborative alliances or others that may require us to relinquish rights to some of our technologies, drug candidates or drugs that we would otherwise pursue on our own. In addition, if we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, and are likely to include rights that are senior to the holders of our common stock. Any additional debt financing or equity that we raise may contain terms, such as liquidation and other preferences, or liens or other restrictions on our assets, which are not favorable to us or our stockholders. An equity financing that involves existing stockholders may cause a concentration of ownership. The terms of any financing may adversely affect the holdings or the rights of existing stockholders. If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates or relinquish rights to portions of our technology, drug candidates and/or products.

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Nasdaq Listing

Our common stock began trading on the Nasdaq Capital Market on February 7, 2013. In order to continue the listing of our common stock on the Nasdaq Capital Market, we are required to meet the continued listing requirements of the Nasdaq Capital Market. If we do not meet these continued listing requirements, our common stock will be delisted.

On November 26, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market indicating that, based on the closing bid price of our common stock for the 30 consecutive business days prior to November 26, 2012, we no longer satisfied the requirement that our common stock maintain a minimum bid price of $1.00 per share as required by Nasdaq Listing Rule 5450(a)(1). Nasdaq stated in its letter that in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we had 180 calendar days, or until May 28, 2013, to regain compliance with the minimum bid price requirement. The Nasdaq letter stated that if, at any time before May 28, 2013, the closing bid price of our common stock is at or above $1.00 per share for a minimum of 10 consecutive business days, we will be deemed to have regained compliance with the minimum bid price requirement and the matter will be closed. If we do not regain compliance with the minimum bid price requirement by May 28, 2013, Nasdaq will provide us with a written notification that our common stock is subject to delisting. We may be eligible to receive an additional 180-day grace period (for a total of 360 days from November 26, 2012) to regain compliance with the minimum bid price requirement provided that we satisfy the continued listing standard for market value of publicly held shares and all other applicable initial listing standards for the Nasdaq Capital Market, other than the minimum bid price requirement, as of May 28, 2013.

Prior to February 7, 2013, our common stock was traded on the Nasdaq Global Market where we were required to meet specified financial requirements, including requirements that we maintain a minimum stockholders equity of $10.0 million or a minimum market value of listed securities of $50.0 million. On June 7, 2012, we received a notification letter from the Nasdaq Listing Qualifications staff of the Nasdaq Stock Market advising us that we were not in compliance with these requirements. Nasdaq also stated in its letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had been provided a compliance period of 180 calendar days, or until December 4, 2012, to regain compliance with these requirements. Because we were not able to regain compliance with these requirements by such date, we requested a hearing before the Nasdaq Listing Qualifications Hearings Panel, or the Panel, at which we requested continued listing pending our return to compliance. Our hearing request stayed the suspension of trading and delisting of our common stock pending the conclusion of the hearing process. On February 5, 2013, the Panel granted our request to transfer the listing of our common stock from the Nasdaq Global Market to the Nasdaq Capital Market and to continue the listing of our common stock on the Nasdaq Capital Market, provided that we satisfied the $2.5 million stockholders equity requirement on or before March 31, 2013, and otherwise met the continued listing requirements of the Nasdaq Capital Market. On March 5, 2013, the Panel extended this date to May 22, 2013 and indicated that by such date, in addition to satisfying the $2.5 million stockholders equity requirement for continued listing on that market and otherwise meeting the continued listing requirements of the Nasdaq Capital Market, we were also required to provide the Panel with additional information regarding our projected burn-rate and stockholders equity through May 31, 2014. On May 8, 2013, we received formal notice from the Nasdaq Stock Market LLC that we had evidenced compliance with the minimum stockholders equity requirement for continued listing on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5450(b)(2) as required by the Panel and that the matter had been closed.

Contractual Obligations

During the three months ended March 31, 2013, there were no material changes outside the ordinary course of our business to our contractual obligations as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2012.

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ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Foreign currency exchange gains and losses may result from amounts to be paid under our Merck KGaA collaboration and termination agreements and payments under our clinical trial agreements that are denominated in Euros. As of March 31, 2013, we had net accrued obligations of 1.0 million ($1.3 million using a March 31, 2013 exchange rate). All other assets and liabilities are in U.S. dollars, which is our functional currency.

We maintain investments in accordance with our investment policy. The primary objectives of our investment activities are to preserve principal, maintain proper liquidity to meet operating needs and maximize yields. Although our investments are subject to credit risk, our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer or type of investment. We regularly review our investment holdings in light of the then current economic environment. We do not own auction rate securities or derivative financial investment instruments in our investment portfolio. At March 31, 2013, all of our invested funds were invested in a money market fund classified in cash and cash equivalents on the accompanying balance sheet.

Based on a hypothetical ten percent adverse movement in interest rates, the potential losses in future earnings, fair value of risk sensitive financial instruments, and cash flows are immaterial, although the actual effects may differ materially from the hypothetical analysis.

ITEM 4. CONTROLS AND PROCEDURES.

(a) *Evaluation of Disclosure Controls and Procedures.* Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of March 31, 2013. In designing and evaluating our disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, our chief executive officer and chief financial officer concluded that as of March 31, 2013, our disclosure controls and procedures were (1) designed to ensure that material information relating to us is made known to our chief executive officer and chief financial officer by others, particularly during the period in which this report was prepared, and (2) effective, in that they provide reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms.

(b) *Changes in Internal Controls*. No change in our internal control over financial reporting occurred during the fiscal quarter ended March 31, 2013 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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PART II OTHER INFORMATION

Item 1A. RISK FACTORS.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks described below together with all of the other information included or incorporated by reference in this Quarterly Report on Form 10-Q before purchasing our common stock. Our business, financial condition and results of operations could be materially and adversely affected by any of these risks or uncertainties. In that case, the market price of our common stock could decline, and you may lose all or part of your investment in our securities.

Risks Relating to Our Financial Results and Need for Financing

We will need additional financing, which may be difficult to obtain. Our failure to obtain necessary financing or doing so on unattractive terms could result in the termination of our operations and the sale and license of our assets or otherwise adversely affect our research and development programs and other operations.

We had cash and cash equivalents of approximately $6,149,000 at March 31, 2013. We believe that the net proceeds of our follow-on public offering of our securities in May 2013, together with our existing cash and cash equivalents, will enable us to fund our operations at least through the fourth quarter of 2014. We believe that our available funds following the May 2013 offering will be sufficient to enable us to conduct our planned Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. We will need to raise additional funds in order to conduct any other clinical development of IMO-3100 or IMO-8400 or to conduct any other development of our other product candidates or technologies. It is also possible that we will not achieve the progress that we expect with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays.

We expect that we will require substantial additional funds to conduct research and development, including preclinical testing and clinical trials of our drug candidates and to fund our operations. We are seeking and expect to continue to seek additional funding through collaborations, the sale or license of assets or financings of equity or debt securities. We believe that the key factors that will affect our ability to obtain funding are:

- the results of our clinical and preclinical development programs, including the results of the ongoing Phase 1 clinical trial of IMO-8400 and the results of the planned Phase 2 clinical trial of IMO-8400 in patients with moderate to severe plaque psoriasis;
- developments related to our existing collaboration with Merck & Co.;
- our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;
- the cost, timing, and outcome of regulatory reviews;
- competitive and potentially competitive products and technologies and investors receptivity to our drug candidates and the technology underlying them in light of competitive products and technologies;
- the receptivity of the capital markets to financings by biotechnology companies generally and companies with drug candidates and technologies such as ours specifically; and

our ability to enter into additional collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

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In addition, increases in expenses or delays in clinical development may adversely impact our cash position and require additional funds or further cost reductions.

Financing may not be available to us when we need it or may not be available to us on favorable or acceptable terms or at all. We could be required to seek funds through collaborative alliances or through other means that may require us to relinquish rights to some of our technologies, drug candidates or drugs that we would otherwise pursue on our own. In addition, if we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. The terms of any financing may adversely affect the holdings or the rights of existing stockholders. An equity financing that involves existing stockholders may cause a concentration of ownership. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, and are likely to include rights that are senior to the holders of our common stock. Any additional debt financing or equity that we raise may contain terms, such as liquidation and other preferences, or liens or other restrictions on our assets, which are not favorable to us or our stockholders.

If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates or relinquish rights to portions of our technology, drug candidates and/or products.

Our independent auditors have expressed substantial doubt about our ability to continue as a going concern.

We have received a report from Ernst & Young LLP, our independent registered public accounting firm, regarding our financial statements as of December 31, 2012 and for the fiscal year then ended, which included an explanatory paragraph stating that the financial statements were prepared assuming we will continue as a going concern. The report also stated that our recurring losses and negative cash flows from operations will require us to raise additional capital or obtain alternative means of financial support, or both, prior to December 31, 2013 in order to continue to fund our operations. These factors raise substantial doubt about our ability to continue as a going concern. As we only have cash resources to fund our operations into the third quarter of 2013, we will need to raise substantial additional funds in order to conduct research and development, including preclinical testing and clinical trials of our drug candidates, and to fund our operations. The going concern explanatory paragraph included in our auditor s report on our financial statements could inhibit our ability to finance our operations. If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates or relinquish rights to portions of our technology, drug candidates and/or products.

We must meet the Nasdaq Capital Market continued listing requirements or we risk delisting. If our common stock were to be delisted, our stock price may decline and it would likely make it more difficult for us to sell securities in a financing and for our stockholders to trade our stock.

Our common stock began trading on the Nasdaq Capital Market on February 7, 2013. In order to continue the listing of our common stock on the Nasdaq Capital Market, we are required to meet the continued listing requirements of the Nasdaq Capital Market. If we do not meet these continued listing requirements, our common stock will be delisted.

On November 26, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market indicating that, based on the closing bid price of our common stock for the 30 consecutive business days prior to November 26, 2012, we no longer satisfied the requirement that our common stock maintain a minimum bid price of $1.00 per share as required by Nasdaq Listing Rule 5450(a)(1). Nasdaq stated in its letter that in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we had 180 calendar days, or until May 28, 2013, to regain compliance with the minimum bid price requirement. The Nasdaq letter stated that if, at any time before May 28, 2013, the closing bid price of our common stock is at or above $1.00 per share for a minimum of 10 consecutive business days, we will be deemed to have regained compliance with the minimum bid price requirement and the matter will be closed. If we do not regain compliance with the minimum bid price requirement by May 28, 2013, Nasdaq will provide us with a written notification that our common stock is subject to delisting. We may be eligible to receive an additional 180-day grace period (for a total of 360 days from November 26,

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2012) to regain compliance with the minimum bid price requirement provided that we satisfy the continued listing standard for market value of publicly held shares and all other applicable initial listing standards for the Nasdaq Capital Market, other than the minimum bid price requirement, as of May 28, 2013.

Prior to February 7, 2013, our common stock was traded on the Nasdaq Global Market where we were required to meet specified financial requirements, including requirements that we maintain a minimum stockholders equity of $10.0 million or a minimum market value of listed securities of $50.0 million. On June 7, 2012, we received a notification letter from the Nasdaq Listing Qualifications staff of the Nasdaq Stock Market advising us that we were not in compliance with these requirements. Nasdaq also stated in its letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had been provided a compliance period of 180 calendar days, or until December 4, 2012, to regain compliance with these requirements. Because we were not able to regain compliance with these requirements by such date, we requested a hearing before the Nasdaq Listing Qualifications Hearings Panel, or the Panel, at which we requested continued listing pending our return to compliance. Our hearing request stayed the suspension of trading and delisting of our common stock pending the conclusion of the hearing process. On February 5, 2013, the Panel granted our request to transfer the listing of our common stock from the Nasdaq Global Market to the Nasdaq Capital Market and to continue the listing of our common stock on the Nasdaq Capital Market, provided that we satisfied the $2.5 million stockholders equity requirement on or before March 31, 2013, and otherwise met the continued listing requirements of the Nasdaq Capital Market. On March 5, 2013, the Panel extended this date to May 22, 2013 and indicated that by such date, in addition to satisfying the $2.5 million stockholders equity requirement for continued listing on that market and otherwise meeting the continued listing requirements of the Nasdaq Capital Market, we were also required to provide the Panel with additional information regarding our projected burn-rate and stockholders equity through May 31, 2014. On May 8, 2013, we received formal notice from the Nasdaq Stock Market LLC that we had evidenced compliance with the minimum stockholders equity requirement for continued listing on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5450(b)(2) as required by the Panel and that the matter had been closed.

If our common stock were to be delisted from the Nasdaq Capital Market, it may be eligible to trade on the Over-The-Counter Bulletin Board, which may be a less liquid market, or on the pink sheets. In such case, our stockholders ability to trade, or obtain quotations of the market value of, shares of our common stock would be severely limited because of lower trading volumes and transaction delays. These factors could contribute to lower prices and larger spreads in the bid and ask prices for our securities. There can be no assurance that our common stock, if in the future it were to be delisted from the Nasdaq Capital Market, would be listed on a national securities exchange, a national quotation service, the Over-The-Counter Bulletin Board or the pink sheets. Delisting from the Nasdaq Capital Market, or even the issuance of a notice of potential delisting, would also result in negative publicity, make it more difficult for us to raise additional capital, adversely affect the market liquidity of our common stock, reduce security analysts coverage of us and diminish investor, supplier and employee confidence.

We have incurred substantial losses and expect to continue to incur losses. We will not be successful unless we reverse this trend.

We have incurred losses in every year since our inception, except for 2002, 2008, and 2009 when our recognition of revenues under license and collaboration agreements resulted in our reporting net income for those years. As of March 31, 2013, we had an accumulated deficit of $398.5 million. Since January 1, 2001, we have primarily been involved in the development of our TLR pipeline. From January 1, 2001 to March 31, 2013, we incurred losses of $138.3 million. We incurred losses of $260.2 million prior to December 31, 2000 during which time we were primarily involved in the development of non-TLR targeted antisense technology. These losses, among other things, have had and will continue to have an adverse effect on our stockholders equity, total assets, and working capital.

We have never had any products of our own available for commercial sale and have received no revenues from the sale of drugs. As of April 15, 2013, almost all of our revenues have been from collaborative and license agreements. We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any drug candidates. Because of the numerous risks and uncertainties associated with developing drugs, we are unable to predict the extent of any future losses, whether or when any of our drug candidates will become commercially available, or when we will become profitable, if at all. We expect to incur substantial operating losses in future periods.

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Risks Relating to Our Business, Strategy and Industry

We are depending heavily on the development of TLR-targeted drug candidates for the treatment of autoimmune and inflammatory diseases. If we terminate the development of the program or any of our drug candidates in the program, are unable to successfully develop and commercialize any of our drug candidates, or experience significant delays in doing so, our business may be materially harmed.

We have invested a significant portion of our time and financial resources in the development of our clinical stage lead drug candidates, IMO-3100 and IMO-8400, as part of our autoimmune and inflammatory disease program. Based on the clinical activity of IMO-3100 observed in our four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis, we have determined that the next step in our development program is to conduct a Phase 2 clinical trial in patients with psoriasis to, among other things, evaluate the clinical activity of IMO-8400 with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR8 by IMO-8400, we have determined to focus our resources on the development of IMO-8400 and to conduct this trial in patients with psoriasis with IMO-8400. We expect to initiate this trial in the second quarter of 2013 and to have top-line data by the end of 2013.

We are also planning to initiate a signal-seeking Phase 2 clinical trial of IMO-8400 in patients with lupus, and are considering conducting a proof-of-concept study of IMO-8400 in an orphan autoimmune disease indication. We expect to select the orphan autoimmune disease indication for further exploration in the second half of 2013. However, our plans to conduct the Phase 2 clinical trial of IMO-8400 in patients with lupus and the proof-of-concept study are subject to our ability to raise additional funding to fund the conduct of this Phase 2 trial and proof-of-concept study. We expect to seek such additional funding through public or private equity offerings, debt financings, collaborations and licensing arrangements and other sources.

As such, we anticipate that our ability to generate product revenues will depend heavily on the successful development and commercialization of our drug candidates in our autoimmune and inflammatory disease program. Our ability to generate product revenues will also depend on the development and commercialization of the drug candidates being developed under our collaboration with Merck & Co. Our efforts, and the efforts of Merck & Co., to develop and commercialize these compounds are at an early stage and are subject to many challenges. We have experienced setbacks with respect to our programs for IMO-3100, IMO-2125, and IMO-2055, including:

During the fourth quarter of 2010, we commenced additional nonclinical studies of IMO-3100 in light of some reversible immune responses that were observed in the 13-week nonclinical toxicology studies and that were inconsistent with observations made in our other nonclinical studies of IMO-3100. In June 2011, we submitted a Phase 2 protocol to the United States Food and Drug Administration, or FDA, to conduct a 12-week clinical trial of IMO-3100 in patients with psoriasis. In July 2011, the FDA placed a clinical hold on the protocol that we had submitted. In October 2011, we submitted to FDA a new Phase 2 protocol to evaluate IMO-3100 in adult patients with moderate to severe plaque psoriasis, over a four-week treatment period. In December 2011, the FDA removed the clinical hold. We subsequently initiated in the second quarter of 2012 the four-week Phase 2 clinical trial that we completed in the fourth quarter of 2012. We cannot be certain that the FDA will allow us to conduct further clinical trials of IMO-3100 for treatment periods of more than four weeks or at all without additional clinical or preclinical data.

In April 2011, we chose to delay initiation of our planned 12-week Phase 2 randomized clinical trial of IMO-2125 plus ribavirin in treatment-naïve, genotype 1 hepatitis C virus, or HCV, patients based on preliminary observations in an ongoing 26-week chronic nonclinical toxicology study of IMO-2125 in rodents. We subsequently completed a 39-week chronic nonclinical toxicology study of IMO-2125 in non-human primates in which there were no similar observations. During the third quarter of 2011, we re-assessed and prioritized our drug development programs, and determined to discontinue further investment of internal resources on the development of IMO-2125 for the treatment of HCV.

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In July 2011, Merck KGaA, Darmstadt, Germany, or Merck KGaA, informed us that, based on increased incidence of neutropenia and electrolyte imbalances reported in its Phase 1 trial of IMO-2055 in combination with cisplatin/5-FU and cetuximab in patients with first-line squamous cell carcinoma of the head and neck, or SCCHN, and subsequent re-evaluation of its clinical development program, Merck KGaA had determined that it would not conduct further clinical development of IMO-2055. In November 2011, as part of an agreed-upon termination of our collaboration with Merck KGaA, we regained global rights to IMO-2055 and our other TLR9 agonists, including preclinical lead drug candidates selected for further evaluation under the collaboration, for the treatment of cancer. In May 2012, we announced that in the Phase 2 trial of IMO-2055 in combination with cetuximab in patients with second-line SCCHN, the combination of IMO-2055 and cetuximab did not meet the primary endpoint of the trial.

We intend to seek to enter into collaborations with pharmaceutical companies to advance the use of our TLR candidates. Our setbacks with respect to our programs for IMO-3100, IMO-2125, and IMO-2055 could negatively impact our ability to license any of such compounds to a third party.

Our ability to successfully develop and commercialize these drug candidates, or other potential candidates, will depend on our ability to overcome these recent challenges and on several factors, including the following:

- the drug candidates demonstrating activity in clinical trials;
- the drug candidates demonstrating an acceptable safety profile in nonclinical toxicology studies and during clinical trials;
- timely enrollment in clinical trials of IMO-8400 and other drug candidates, which may be slower than anticipated, potentially resulting in significant delays;
- satisfying conditions imposed on us and/or our collaborators by the FDA or equivalent foreign regulatory authorities regarding the scope or design of clinical trials;
- the ability to demonstrate to the satisfaction of the FDA, or equivalent foreign regulatory authorities, the safety and efficacy of the drug candidates through current and future clinical trials;
- timely receipt of necessary marketing approvals from the FDA and equivalent foreign regulatory authorities;
- the ability to combine our drug candidates and the drug candidates being developed by Merck & Co. and any other collaborators safely and successfully with other therapeutic agents;
- achieving and maintaining compliance with all regulatory requirements applicable to the products;
- establishment of commercial manufacturing arrangements with third-party manufacturers;
- the successful commercial launch of the drug candidates, assuming FDA approval is obtained, whether alone or in combination with other products;
- acceptance of the products as safe and effective by patients, the medical community, and third-party payors;

competition from other companies and their therapies;

changes in treatment regimes;

successful protection of our intellectual property rights from competing products in the United States and abroad; and

a continued acceptable safety and efficacy profile of the drug candidates following marketing approval.

If our clinical trials are unsuccessful, or if they are delayed or terminated, we may not be able to develop and commercialize our products.

In order to obtain regulatory approvals for the commercial sale of our products, we are required to complete extensive clinical trials in humans to demonstrate the safety and efficacy of our drug candidates. Clinical trials are lengthy, complex, and expensive processes with uncertain results. We may not be able to complete any clinical trial of a potential product within any specified time period. Moreover, clinical trials may not show our potential products to be both safe and

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efficacious. The FDA or other equivalent foreign regulatory agencies may not allow us to complete these trials or commence and complete any other clinical trials. For example, in July 2011, the FDA placed a clinical hold on a protocol we had submitted for a proposed Phase 2 clinical trial of IMO-3100 in patients with psoriasis.

The results from preclinical testing of a drug candidate that is under development may not be predictive of results that will be obtained in human clinical trials. In addition, the results of early human clinical trials may not be predictive of results that will be obtained in larger scale, advanced stage clinical trials. Furthermore, interim results of a clinical trial do not necessarily predict final results, and failure of any of our clinical trials can occur at any stage of testing. Companies in the biotechnology and pharmaceutical industries, including companies with greater experience in preclinical testing and clinical trials than we have, have suffered significant setbacks in clinical trials, even after demonstrating promising results in earlier trials. Moreover, effects seen in nonclinical studies, even if not observed in clinical trials, may result in limitations or restrictions on clinical trials. Numerous unforeseen events may occur during, or as a result of, preclinical testing, nonclinical testing or the clinical trial process that could delay or inhibit the ability to receive regulatory approval or to commercialize drug products.

Other companies developing drugs targeted to TLRs have experienced setbacks in clinical trials. For example in 2007, Coley Pharmaceutical Group, which since has been acquired by Pfizer, Inc., or Pfizer, discontinued four clinical trials for PF-3512676, its investigational TLR9 agonist compound, in combination with cytotoxic chemotherapy in cancer, and suspended its development of Actilon®, a TLR9 agonist, for HCV infection. In July 2007, Anadys Pharmaceuticals, Inc. and its partner Novartis Pharmaceuticals, Ltd., or Novartis, discontinued the development of ANA975, the investigational TLR7 agonist compound for HCV infection. Dynavax Technologies Corporation, or Dynavax, announced in May 2008 discontinuation of the clinical development program for TOLAMBA®, an investigational vaccine which contained a TLR9 agonist adjuvant, and in February 2013 Dynavax announced receipt of a Complete Response Letter from FDA regarding its Biological License Application for HEPLISAV®, which is an investigational hepatitis B vaccine that contains a TLR9 agonist adjuvant. These setbacks with respect to TLR-targeted drug candidates may result in enhanced scrutiny by regulators or institutional review boards, or IRBs, of clinical trials of TLR-targeted drug candidates, including our TLR-targeted drug candidates, which could result in regulators or IRBs prohibiting the commencement of clinical trials, requiring additional nonclinical studies as a precondition to commencing clinical trials or imposing restrictions on the design or scope of clinical trials that could slow enrollment of trials, increase the costs of trials or limit the significance of the results of trials. Such setbacks could also adversely impact the desire of investigators to enroll patients in, and the desire of patients to enroll in, clinical trials of TLR-targeted drug candidates.

Other events that could delay or inhibit conduct of our clinical trials include:

- regulators or IRBs may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- nonclinical or clinical data may not be readily interpreted, which may lead to delays and/or misinterpretation;
- our nonclinical tests, including toxicology studies, or clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional nonclinical testing or clinical trials or we may abandon projects that we expect may not be promising;
- the rate of enrollment or retention of patients in our clinical trials may be lower than we expect;
- we might have to suspend or terminate our clinical trials if the participating subjects experience serious adverse events or undesirable side effects or are exposed to unacceptable health risks;
- regulators or IRBs may hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements, issues identified through inspections of manufacturing or clinical trial operations or clinical trial sites, or if, in their opinion, the participating subjects are being exposed to unacceptable health risks;

regulators may hold or suspend our clinical trials while collecting supplemental information on, or clarification of, our clinical trials or other clinical trials, including trials conducted in other countries or trials conducted by other companies;

we, along with our collaborators and subcontractors, may not employ, in any capacity, persons who have been debarred under the FDA s Application Integrity Policy, or similar policy under foreign regulatory authorities. Employment of such debarred persons, even if inadvertent, may result in delays in the FDA s or foreign equivalent s review or approval of our products, or the rejection of data developed with the involvement of such person(s);

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- the cost of our clinical trials may be greater than we currently anticipate; and

- our products may not cause the desired effects or may cause undesirable side effects or our products may have other unexpected characteristics.

The rate of completion of clinical trials is dependent in part upon the rate of enrollment of patients. For example, in our Phase 1 clinical trial of IMO-2125 in patients with chronic HCV infection who had not responded to the current standard of care therapy, completion of each cohort took longer than anticipated due to enrollment procedures. Patient accrual is a function of many factors, including:

- the size of the patient population;

- the proximity of patients to clinical sites;

- the eligibility criteria for the trial;

- the nature of the trial, including the pattern of patient enrollment;

- the existence of competitive clinical trials; and

- the availability of alternative treatments.

We do not know whether clinical trials will begin as planned, will need to be restructured or will be completed on schedule, if at all. Significant clinical trial delays also could allow our competitors to bring products to market before we do and impair our ability to commercialize our products.

Delays in commencing clinical trials of potential products could increase our costs, delay any potential revenues, and reduce the probability that a potential product will receive regulatory approval.

Our drug candidates and our collaborators drug candidates will require preclinical and other nonclinical testing and extensive clinical trials prior to submission of any regulatory application for commercial sales. In conducting clinical trials, we cannot be certain that any planned clinical trial will begin on time, if at all. Delays in commencing clinical trials of potential products could increase our product development costs, delay any potential revenues, and reduce the probability that a potential product will receive regulatory approval.

Commencing clinical trials may be delayed for a number of reasons, including delays in:

- manufacturing sufficient quantities of drug candidate that satisfy the required quality standards for use in clinical trials;

- demonstrating sufficient safety to obtain regulatory approval for conducting a clinical trial;

- reaching an agreement with any collaborators on all aspects of the clinical trial;

reaching agreement with contract research organizations, if any, and clinical trial sites on all aspects of the clinical trial;

resolving any objections from the FDA or any regulatory authority on an Investigational New Drug application, or IND, or proposed clinical trial design;

obtaining IRB approval for conducting a clinical trial at a prospective site; and

enrolling patients in order to commence the clinical trial.

The technologies on which we rely are unproven and may not result in any approved and marketable products.

Our technologies or therapeutic approaches are relatively new and unproven. We have focused our efforts on the research and development of RNA- and DNA-based compounds targeted to TLRs and on GSOs. Neither we nor any other company have obtained regulatory approval to market such compounds as therapeutic drugs, and no such products currently

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are being marketed. It is unknown whether the results of preclinical studies with TLR-targeted compounds will be indicative of results that may be obtained in clinical trials, and results we have obtained in the clinical trials we have conducted to date may not be predictive of results in subsequent large-scale clinical trials. Further, the chemical and pharmacological properties of RNA- and DNA-based compounds targeted to TLRs or of GSOs may not be fully recognized in preclinical studies and small-scale clinical trials, and such compounds may interact with human biological systems in unforeseen, ineffective or harmful ways that we have not yet identified.

As a result of these factors, we may never succeed in obtaining regulatory approval to market any product. Furthermore, the commercial success of any of our products for which we may obtain marketing approval from the FDA or other regulatory authorities will depend upon their acceptance by patients, the medical community, and third-party payors as clinically useful, safe, and cost-effective. In addition, if products being developed by our competitors have negative clinical trial results or otherwise are viewed negatively, the perception of our technologies and market acceptance of our products could be impacted negatively.

Our recent setbacks with respect to our TLR-targeted compounds, together with the setbacks experienced by other companies developing TLR-targeted compounds, may result in a negative perception of our technology and our TLR-targeted compounds, impact our ability to obtain marketing approval of these drug candidates and adversely affect acceptance of our technology and our TLR-targeted compounds by patients, the medical community and third-party payors.

Our efforts to educate the medical community on our potentially unique approaches may require greater resources than would be typically required for products based on conventional technologies or therapeutic approaches. The safety, efficacy, convenience, and cost-effectiveness of our products as compared to competitive products will also affect market acceptance.

We face substantial competition, which may result in others discovering, developing or commercializing drugs before or more successfully than us.

We are developing our TLR-targeted drug candidates for use in the treatment of autoimmune and inflammatory diseases and for use as vaccine adjuvants. We have two drug candidates in clinical development in our autoimmune and inflammatory disease program. We are also collaborating with Merck & Co. for the use of agonists of TLR7, TLR8, and TLR9 as vaccine adjuvants for cancer, infectious diseases and Alzheimer s disease. Finally, we are seeking to enter into collaborative alliances with pharmaceutical companies to advance our TLR-targeted programs in oncology and respiratory diseases, and for the use of TLR3 agonists as vaccine adjuvants, as well as applications of our GSO technology platform. For all of these disease areas, there are many other companies, public and private, that are actively engaged in discovery, development, and commercializing products and technologies that may compete with our drug candidates and programs, including TLR targeted compounds as well as non-TLR targeted therapies.

Our principal competitor developing TLR-targeted compounds for autoimmune and inflammatory diseases is Dynavax, with its collaborator, GlaxoSmithKline, plc., or GlaxoSmithKline. Merck & Co. s vaccines using our TLR7, TLR8 or TLR9 agonists as adjuvants may compete with vaccines using TLR agonists as adjuvants being developed or marketed by GlaxoSmithKline, Novartis, Dynavax, VaxInnate, Inc., Intercell AG and Cytos Biotechnology AG.

We are developing drug candidates for the treatment of moderate to severe plaque psoriasis. There are a number of well-known immune suppressors and biologics that are currently being widely used for the treatment of moderate to severe plaque psoriasis, including methotrexate and cyclosporine, which are both immune suppressors, and biologics like Enbrel, which is marketed by Amgen Inc., or Amgen, Pfizer and Takeda Pharmaceutical Company Limited, Remicade, which is marketed by Janssen Biotech, Merck & Co. and Mitsubishi Tanabe Pharma, Humira, which is marketed by Abbott Laboratories, and Stelara, which is marketed by Janssen Biotech. In addition to existing treatments, we are also aware of additional compounds for the treatment of moderate to severe plaque psoriasis that are currently in late stage development, including apremilast, which is being developed by Celgene Corporation, tofacitinib, which is being developed by Pfizer, secukinumab, which is being developed by Novartis, ixekizumab, which is being developed by Eli Lilly and Company, and brodalumab, which is being developed by Amgen, AstraZeneca PLC and Kyowa Hakko Kirin Co., Ltd.

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Some of these potentially competitive products have been in development or commercialized for years, in some cases by large, well established pharmaceutical companies. Many of the marketed products have been accepted by the medical community, patients, and third-party payors. Our ability to compete may be affected by the previous adoption of such products by the medical community, patients, and third-party payors. Additionally, in some instances, insurers and other third-party payors seek to encourage the use of generic products, which makes branded products, such as our drug candidates, potentially less attractive, from a cost perspective, to buyers.

We recognize that other companies, including large pharmaceutical companies, may be developing or have plans to develop products and technologies that may compete with ours. Many of our competitors have substantially greater financial, technical, and human resources than we have. In addition, many of our competitors have significantly greater experience than we have in undertaking preclinical studies and human clinical trials of new pharmaceutical products, obtaining FDA and other regulatory approvals of products for use in health care and manufacturing, and marketing and selling approved products. Our competitors may discover, develop or commercialize products or other novel technologies that are more effective, safer or less costly than any that we are developing. Our competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours.

We anticipate that the competition with our products and technologies will be based on a number of factors including product efficacy, safety, availability, and price. The timing of market introduction of our products and competitive products will also affect competition among products. We expect the relative speed with which we can develop products, complete the clinical trials, and approval processes and supply commercial quantities of the products to the market to be important competitive factors. Our competitive position will also depend upon our ability to attract and retain qualified personnel, to obtain patent protection or otherwise develop proprietary products or processes, and protect our intellectual property, and to secure sufficient capital resources for the period between technological conception and commercial sales.

Competition for technical and management personnel is intense in our industry, and we may not be able to sustain our operations or grow if we are unable to attract and retain key personnel.

Our success is highly dependent on the retention of principal members of our technical and management staff, including Dr. Sudhir Agrawal. Dr. Agrawal serves as our Chairman of the Board of Directors, President and Chief Executive Officer. Dr. Agrawal has made significant contributions to the field of oligonucleotide-based drug candidates, and has led the discovery and development of our compounds targeted to TLRs. He is named as an inventor on over 400 patents and patent applications in countries around the world. Dr. Agrawal provides us with leadership for our management team and research and development activities. The loss of Dr. Agrawal s services would be detrimental to our ongoing scientific progress and the execution of our business plan.

We are a party to an employment agreement with Dr. Agrawal that expires on October 19, 2015, but automatically extends annually for additional one year periods. This agreement may be terminated by us or Dr. Agrawal for any reason or no reason at any time upon notice to the other party. We do not carry key man life insurance for Dr. Agrawal.

Furthermore, our future growth will require hiring a number of qualified technical and management personnel. Accordingly, recruiting and retaining such personnel in the future will be critical to our success. There is intense competition from other companies and research and academic institutions for qualified personnel in the areas of our activities. If we are not able to continue to attract and retain, on acceptable terms, the qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or growth.

Regulatory Risks

We may not be able to obtain marketing approval for products resulting from our development efforts.

All of the drug candidates that we are developing, or may develop in the future, will require additional research and development, extensive preclinical studies, nonclinical testing, clinical trials, and regulatory approval prior to any commercial sales. This process is lengthy, often taking a number of years, is uncertain, and is expensive. Since our inception, we have conducted clinical trials of a number of compounds. Currently two of our compounds, IMO-3100 and IMO-8400, are in clinical development. The FDA and other regulatory authorities may not approve any of our potential products for any indication.

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We may need to address a number of technological challenges in order to complete development of our products. Moreover, these products may not be effective in treating any disease or may prove to have undesirable or unintended side effects, unintended alteration of the immune system over time, toxicities or other characteristics that may preclude our obtaining regulatory approval or prevent or limit commercial use. If we do not obtain necessary regulatory approvals, our business will be adversely affected.

We are subject to comprehensive regulatory requirements, which are costly and time consuming to comply with; if we fail to comply with these requirements, we could be subject to adverse consequences and penalties.

The testing, manufacturing, labeling, advertising, promotion, export, and marketing of our products are subject to extensive regulation by governmental authorities in Europe, the United States, and elsewhere throughout the world.

In general, submission of materials requesting permission to conduct clinical trials may not result in authorization by the FDA or any equivalent foreign regulatory agency to commence clinical trials. Further, permission to continue ongoing trials may be withdrawn by the FDA or other regulatory agencies at any time after initiation, based on new information available after the initial authorization to commence clinical trials or for other reasons. In addition, submission of an application for marketing approval to the relevant regulatory agency following completion of clinical trials may not result in the regulatory agency approving the application if applicable regulatory criteria are not satisfied, and may result in the regulatory agency requiring additional testing or information.

Even if we obtain regulatory approval for any of our product candidates, we will be subject to ongoing FDA obligations and regulatory oversight. Any regulatory approval of a product may contain limitations on the approved indicated uses for which the product may be marketed or requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. Any product for which we obtain marketing approval, along with the facilities at which the product is manufactured, any post-approval clinical data, and any advertising and promotional activities for the product will be subject to continual review and periodic inspections by the FDA and other regulatory agencies.

Both before and after approval is obtained, failure to comply with regulatory requirements, or discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, may result in:

- the regulatory agency s delay in approving, or refusal to approve, an application for marketing of a product or a supplement to an approved application;
- restrictions on our products or the marketing or manufacturing of our products;
- withdrawal of our products from the market;
- warning letters;
- voluntary or mandatory product recalls;
- fines;
- suspension or withdrawal of regulatory approvals;
- product seizure or detention;

refusal to permit the import or export of our products;

injunctions or the imposition of civil penalties; and

criminal penalties.

We have only limited experience in regulatory affairs and our products are based on new technologies; these factors may affect our ability or the time we require to obtain necessary regulatory approvals.

We have only limited experience in filing the applications necessary to obtain regulatory approvals. Moreover, the products that result from our research and development programs will likely be based on new technologies and new therapeutic approaches that have not been extensively tested in humans. The regulatory requirements governing these types of products may be more rigorous than for conventional drugs. As a result, we may experience a longer regulatory process in connection with obtaining regulatory approvals of any product that we develop.

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Failure to obtain regulatory approval in jurisdictions outside the United States will prevent us from marketing our products abroad.

We intend to market our products, if approved, in markets outside the United States, which will require separate regulatory approvals and compliance with numerous and varying regulatory requirements. The approval procedures vary among such markets and may involve requirements for additional testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all.

Risks Relating to Collaborators

If we are unable to establish additional collaborative alliances, our business may be materially harmed.

Collaborators provide the necessary resources and drug development experience to advance our compounds in their programs. We are seeking to enter into collaborative alliances with pharmaceutical companies to advance our TLR-targeted programs in oncology, infectious diseases, respiratory diseases, and the use of TLR3 agonists as vaccine adjuvants, as well as applications of our GSO technology platform.

Upfront payments and milestone payments received from collaborations help to provide us with the financial resources for our internal research and development programs. Our internal programs are focused on developing TLR-targeted drug candidates for the potential treatment of autoimmune and inflammatory diseases. We believe that additional resources will be required to advance compounds in all of these areas. If we do not reach agreements with additional collaborators in the future, we may not be able to obtain the expertise and resources necessary to achieve our business objectives, our ability to advance our compounds will be jeopardized and we may fail to meet our business objectives.

We may have difficulty establishing additional collaborative alliances, particularly with respect to our TLR-targeted drug candidates and technology. Potential partners may note that our TLR collaborations with Novartis and with Merck KGaA have been terminated. Potential partners may also be reluctant to establish collaborations with respect to IMO-2125, IMO-3100, IMO-2055, and our other TLR-targeted drug candidates, given our recent setbacks with respect to these drug candidates. We also face, and expect to continue to face, significant competition in seeking appropriate collaborators.

Even if a potential partner were willing to enter into a collaborative alliance with respect to our TLR-targeted compounds or technology, the terms of such a collaborative alliance may not be on terms that are favorable to us. Moreover, collaborations are complex and time consuming to negotiate, document, and implement. We may not be successful in our efforts to establish and implement collaborations on a timely basis.

Our existing collaboration and any collaborations we enter into in the future may not be successful.

An important element of our business strategy includes entering into collaborative alliances with corporate collaborators, primarily large pharmaceutical companies, for the development, commercialization, marketing, and distribution of some of our drug candidates. In December 2007, we entered into an exclusive, worldwide license agreement with Merck KGaA to research, develop, and commercialize products containing our TLR9 agonists for treatment of cancer, excluding cancer vaccines. In December 2006, we entered into an exclusive license and research collaboration with Merck & Co. to research, develop, and commercialize vaccine products containing our TLR7, TLR8, and TLR9 agonists in the fields of cancer, infectious diseases, and Alzheimer s disease.

Any collaboration that we enter into may not be successful. For instance, in July 2011, Merck KGaA informed us that it had determined not to conduct further clinical development of IMO-2055, and in November 2011, we entered into an agreement with Merck KGaA terminating our collaboration with them. The success of our collaborative alliances, if any, will depend heavily on the efforts and activities of our collaborators. Our existing collaboration and any potential future collaborations have risks, including the following:

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our collaborators may control the development of the drug candidates being developed with our technologies and compounds including the timing of development;

our collaborators may control the public release of information regarding the developments, and we may not be able to make announcements or data presentations on a schedule favorable to us;

disputes may arise in the future with respect to the ownership of rights to technology developed with our collaborators;

disagreements with our collaborators could delay or terminate the research, development or commercialization of products, or result in litigation or arbitration;

we may have difficulty enforcing the contracts if any of our collaborators fail to perform;

our collaborators may terminate their collaborations with us, which could make it difficult for us to attract new collaborators or adversely affect the perception of us in the business or financial communities;

our collaboration agreements are likely to be for fixed terms and subject to termination by our collaborators in the event of a material breach or lack of scientific progress by us;

our collaborators may have the first right to maintain or defend our intellectual property rights and, although we would likely have the right to assume the maintenance and defense of our intellectual property rights if our collaborators do not, our ability to do so may be compromised by our collaborators acts or omissions;

our collaborators may challenge our intellectual property rights or utilize our intellectual property rights in such a way as to invite litigation that could jeopardize or invalidate our intellectual property rights or expose us to potential liability;

our collaborators may not comply with all applicable regulatory requirements, or may fail to report safety data in accordance with all applicable regulatory requirements;

our collaborators may change the focus of their development and commercialization efforts. Pharmaceutical and biotechnology companies historically have re-evaluated their priorities following mergers and consolidations, which have been common in recent years in these industries. For example, we have a strategic partnership with Merck & Co., which merged with Schering-Plough, which has been involved with certain TLR-targeted research and development programs. Although the merger has not affected our partnership with Merck & Co. to date, management of the combined company could determine to reduce the efforts and resources that the combined company will apply to its strategic partnership with us or terminate the strategic partnership. The ability of our products to reach their potential could be limited if our collaborators decrease or fail to increase spending relating to such products;

our collaborators may under fund or not commit sufficient resources to the testing, marketing, distribution or development of our products; and

- our collaborators may develop alternative products either on their own or in collaboration with others, or encounter conflicts of interest or changes in business strategy or other business issues, which could adversely affect their willingness or ability to fulfill their obligations to us.

Given these risks, it is possible that any collaborative alliance into which we enter may not be successful. Collaborations with pharmaceutical companies and other third parties often are terminated or allowed to expire by the other party. For example, effective as of February 2010, Novartis terminated the research collaboration and option agreement that we entered into with it in May 2005, and in November 2011, we entered into an agreement with Merck KGaA terminating our collaboration with them. In addition, Merck & Co. may terminate its license and research collaboration agreement by giving us 90 days advance notice. The termination or expiration of our agreement with Merck & Co. or any other collaboration agreement that we enter into in the future may adversely affect us financially and could harm our business reputation.

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Risks Relating to Intellectual Property

If we are unable to obtain patent protection for our discoveries, the value of our technology and products will be adversely affected.

Our patent positions, and those of other drug discovery companies, are generally uncertain and involve complex legal, scientific, and factual questions. Our ability to develop and commercialize drugs depends in significant part on our ability to:

- obtain patents;
- obtain licenses to the proprietary rights of others on commercially reasonable terms;
- operate without infringing upon the proprietary rights of others;
- prevent others from infringing on our proprietary rights; and
- protect our trade secrets.

We do not know whether any of our patent applications or those patent applications that we license will result in the issuance of any patents. Our issued patents and those that may be issued in the future, or those licensed to us, may be challenged, invalidated or circumvented, and the rights granted thereunder may not provide us proprietary protection or competitive advantages against competitors with similar technology. Moreover, intellectual property laws may change and negatively impact our ability to obtain issued patents covering our technologies or to enforce any patents that issue. Because of the extensive time required for development, testing, and regulatory review of a potential product, it is possible that, before any of our products can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thus reducing any advantage provided by the patent.

Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors can be certain that we or they were the first to make the inventions claimed in issued patents or pending patent applications, or that we or they were the first to file for protection of the inventions set forth in these patent applications.

As of April 15, 2013, we owned more than 50 U.S. patents and patent applications and more than 100 patents and patent applications throughout the rest of the world for our TLR-targeted immune modulation technologies. These patents and patent applications include novel chemical compositions of matter and methods of use of our IMO compounds, including IMO-3100, IMO-8400 and IMO-2055. As of April 15, 2013, all of our intellectual property covering immune modulatory compositions and methods of their use is based on discoveries made solely by us. These patents expire at various dates ranging from 2017 to 2031. With respect to IMO-3100, we have issued U.S. patents that cover the chemical composition of matter of IMO-3100 and methods of its use that will expire at the earliest in 2026. With respect to IMO-8400, we have U.S. patent applications that cover the chemical composition of matter of IMO-8400 and methods of its use that will expire at the earliest in 2031. With respect to IMO-2055, we have issued U.S. patents that cover the chemical composition of matter of IMO-2055 and methods of its use, including in combination with marketed cancer products, with the earliest composition claims in the United States expiring in 2023.

As of April 15, 2013, we owned four U.S. patent applications and six worldwide patent applications for our GSO compounds and methods of their use. Patents issuing from these patent applications, if any, would expire at the earliest in 2030.

In addition to our TLR-targeted and GSO patent portfolios, we are the owner or hold licenses of patents and patent applications related to antisense technology. As of April 15, 2013, our antisense patent portfolio included more than 75 U.S. patents and patent applications and more than 75 patents and patent applications throughout the rest of the world. These antisense patents and patent applications include novel compositions of matter, the use of these compositions for various genes, sequences and therapeutic targets, and oral and other routes of administration. Some of the patents and patent applications in our antisense portfolio were in-licensed. These in-licensed patents expire at various dates ranging from 2013 to 2021.

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Third parties may own or control patents or patent applications and require us to seek licenses, which could increase our development and commercialization costs, or prevent us from developing or marketing products.

Although we have many issued patents and pending patent applications in the United States and other countries, we may not have rights under certain third-party patents or patent applications related to our products. Third parties may own or control these patents and patent applications in the United States and abroad. In particular, we are aware of third-party U.S. patents that contain broad claims related to the use of certain oligonucleotides for stimulating an immune response, although we do not believe that these claims are valid. In addition, there may be other patents and patent applications related to our products of which we are not aware. Therefore, in some cases, in order to develop, manufacture, sell or import some of our products, we or our collaborators may choose to seek, or be required to seek, licenses under third-party patents issued in the United States and abroad or under third-party patents that might issue from U.S. and foreign patent applications. In such an event, we would be required to pay license fees or royalties or both to the licensor. If licenses are not available to us on acceptable terms, we or our collaborators may not be able to develop, manufacture, sell or import these products.

We may lose our rights to patents, patent applications or technologies of third parties if our licenses from these third parties are terminated. In such an event, we might not be able to develop or commercialize products covered by the licenses.

Currently, we have not in-licensed any patents or patent applications related to our TLR-targeted drug candidate programs or our GSO compounds and methods of their use. However, we are party to six royalty-bearing license agreements under which we have acquired rights to patents, patent applications, and technology of third parties in the field of antisense technology, which may be applicable to our TLR antisense. Under these licenses we are obligated to pay royalties on net sales by us of products or processes covered by a valid claim of a patent or patent application licensed to us. We also are required in some cases to pay a specified percentage of any sublicense income that we may receive. These licenses impose various commercialization, sublicensing, insurance, and other obligations on us.

Our failure to comply with these requirements could result in termination of the licenses. These licenses generally will otherwise remain in effect until the expiration of all valid claims of the patents covered by such licenses or upon earlier termination by the parties. The issued patents covered by these licenses expire at various dates ranging from 2013 to 2021. If one or more of these licenses is terminated, we may be delayed in our efforts, or be unable, to develop and market the products that are covered by the applicable license or licenses.

We may become involved in expensive patent litigation or other proceedings, which could result in our incurring substantial costs and expenses or substantial liability for damages or require us to stop our development and commercialization efforts.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the biotechnology industry. We may become a party to various types of patent litigation or other proceedings regarding intellectual property rights from time to time even under circumstances where we are not practicing and do not intend to practice any of the intellectual property involved in the proceedings. For instance, in 2002, 2003, and 2005, we became involved in interference proceedings declared by the United States Patent and Trademark Office for some of our antisense and ribozyme patents. All of these interferences have since been resolved. We are neither practicing nor intending to practice the intellectual property that is associated with any of these interference proceedings.

The cost to us of any patent litigation or other proceeding even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. If any patent litigation or other proceeding is resolved against us, we or our collaborators may be enjoined from developing, manufacturing, selling or importing our drugs without a license from the other party and we may be held liable for significant damages. We may not be able to obtain any required license on commercially acceptable terms or at all.

Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

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Risks Relating to Product Manufacturing, Marketing and Sales, and Reliance on Third Parties

Because we have limited manufacturing experience, and no manufacturing facilities or infrastructure, we are dependent on third-party manufacturers to manufacture drug candidates for us. If we cannot rely on third-party manufacturers, we will be required to incur significant costs and devote significant efforts to establish our own manufacturing facilities and capabilities.

We have limited manufacturing experience and no manufacturing facilities, infrastructure or clinical or commercial scale manufacturing capabilities. In order to continue to develop our drug candidates, apply for regulatory approvals, and ultimately commercialize products, we need to develop, contract for or otherwise arrange for the necessary manufacturing capabilities.

We currently rely upon third parties to produce material for nonclinical and clinical testing purposes and expect to continue to do so in the future. We also expect to rely upon third parties to produce materials that may be required for the commercial production of our products. Our current and anticipated future dependence upon others for the manufacture of our drug candidates may adversely affect our future profit margins and our ability to develop drug candidates and commercialize any drug candidates on a timely and competitive basis. We currently do not have any long term supply contracts.

There are a limited number of manufacturers that operate under the FDA s current Good Manufacturing Practices, or cGMP, regulations capable of manufacturing our drug candidates. As a result, we may have difficulty finding manufacturers for our products with adequate capacity for our needs. If we are unable to arrange for third-party manufacturing of our drug candidates on a timely basis, or to do so on commercially reasonable terms, we may not be able to complete development of our drug candidates or market them.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured drug candidates ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control;
- the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us;
- the potential that third-party manufacturers will develop know-how owned by such third party in connection with the production of our drug candidates that becomes necessary for the manufacture of our drug candidates; and
- reliance upon third-party manufacturers to assist us in preventing inadvertent disclosure or theft of our proprietary knowledge.

Any contract manufacturers with which we enter into manufacturing arrangements will be subject to ongoing periodic, unannounced inspections by the FDA, or foreign equivalent, and corresponding state and foreign agencies or their designees to ensure compliance with cGMP requirements and other governmental regulations and corresponding foreign standards. For example, one of our contract manufacturers notified us that it had received a cGMP warning letter from the FDA in February 2011. This contract manufacturer no longer manufactures drug product for us. Any failure by our third-party manufacturers to comply with such requirements, regulations or standards could lead to a delay in the conduct of our clinical trials, or a delay in, or failure to obtain, regulatory approval of any of our drug candidates. Such failure could also result in sanctions being imposed, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, product seizures or recalls, imposition of operating restrictions, total or partial suspension of production or distribution, or criminal prosecution.

Additionally, contract manufacturers may not be able to manufacture our drug candidates at a cost or in quantities necessary to make them commercially viable. As of January 31, 2013, our third-party manufacturers have met our manufacturing requirements, but we cannot be assured that they will continue to do so. Furthermore, changes in the manufacturing process or procedure, including a change in the location where the drug substance or drug product is manufactured or a change of a third-party manufacturer, may require prior FDA review and approval in accordance with the

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FDA s cGMP and NDA/BLA regulations. Contract manufacturers may also be subject to comparable foreign requirements. This review may be costly and time-consuming and could delay or prevent the launch of a drug candidate. The FDA or similar foreign regulatory agencies at any time may also implement new standards, or change their interpretation and enforcement of existing standards for manufacture, packaging or testing of products. If we or our contract manufacturers are unable to comply, we or they may be subject to regulatory action, civil actions or penalties.

We have no experience selling, marketing or distributing products and no internal capability to do so.

If we receive regulatory approval to commence commercial sales of any of our drug candidates, we will face competition with respect to commercial sales, marketing, and distribution. These are areas in which we have no experience. To market any of our drug candidates directly, we would need to develop a marketing and sales force with technical expertise and with supporting distribution capability. In particular, we would need to recruit a large number of experienced marketing and sales personnel. Alternatively, we could engage a pharmaceutical or other healthcare company with an existing distribution system and direct sales force to assist us. However, to the extent we entered into such arrangements, we would be dependent on the efforts of third parties. If we are unable to establish sales and distribution capabilities, whether internally or in reliance on third parties, our business would suffer materially.

If third parties on whom we rely for clinical trials do not perform as contractually required or as we expect, we may not be able to obtain regulatory approval for or commercialize our products and our business may suffer.

We do not have the ability to independently conduct the clinical trials required to obtain regulatory approval for our drug candidates. We depend on independent clinical investigators, contract research organizations, and other third-party service providers in the conduct of the clinical trials of our drug candidates and expect to continue to do so. We contracted with contract research organizations to manage our Phase 1 and Phase 2 clinical trials of IMO-3100, our ongoing Phase 1 clinical trial of IMO-8400 and our planned Phase 2 clinical trial of IMO-8400 in patients with psoriasis, and expect to contract with such organizations for future clinical trials. We rely heavily on these parties for successful execution of our clinical trials, but do not control many aspects of their activities. We are responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA and foreign regulatory agencies require us to comply with certain standards, commonly referred to as good clinical practices, and applicable regulatory requirements, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of clinical trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Third parties may not complete activities on schedule, or at all, or may not conduct our clinical trials in accordance with regulatory requirements or our stated protocols. The failure of these third parties to carry out their obligations could delay or prevent the development, approval, and commercialization of our drug candidates. If we seek to conduct any of these activities ourselves in the future, we will need to recruit appropriately trained personnel and add to our infrastructure.

The commercial success of any drug candidates that we may develop will depend upon the degree of market acceptance by physicians, patients, third-party payors, and others in the medical community.

Any products that we ultimately bring to the market, if they receive marketing approval, may not gain market acceptance by physicians, patients, third-party payors or others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and we may not become profitable. The degree of market acceptance of our drug candidates, if approved for commercial sale, will depend on a number of factors, including:

- the prevalence and severity of any side effects, including any limitations or warnings contained in the product s approved labeling;
- the efficacy and potential advantages over alternative treatments;
- the ability to offer our drug candidates for sale at competitive prices;
- relative convenience and ease of administration;

the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;

the strength of marketing and distribution support and the timing of market introduction of competitive products; and

publicity concerning our products or competing products and treatments.

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Even if a potential product displays a favorable efficacy and safety profile, market acceptance of the product will not be known until after it is launched. Our efforts to educate patients, the medical community, and third-party payors on the benefits of our drug candidates may require significant resources and may never be successful. Such efforts to educate the marketplace may require more resources than are required by conventional technologies marketed by our competitors.

If we are unable to obtain adequate reimbursement from third-party payors for any products that we may develop or acceptable prices for those products, our revenues and prospects for profitability will suffer.

Most patients rely on Medicare, Medicaid, private health insurers, and other third-party payors to pay for their medical needs, including any drugs we may market. If third-party payors do not provide adequate coverage or reimbursement for any products that we may develop, our revenues and prospects for profitability will suffer. Congress enacted a limited prescription drug benefit for Medicare recipients in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. While the program established by this statute may increase demand for our products if we were to participate in this program, our prices will be negotiated with drug procurement organizations for Medicare beneficiaries and are likely to be lower than we might otherwise obtain. Non-Medicare third-party drug procurement organizations may also base the price they are willing to pay on the rate paid by drug procurement organizations for Medicare beneficiaries or may otherwise negotiate the price they are willing to pay.

A primary trend in the United States healthcare industry is toward cost containment. In addition, in some foreign countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take six months or longer after the receipt of regulatory marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost effectiveness of our drug candidates or products to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in commercialization of our products. These further clinical trials would require additional time, resources, and expenses. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our prospects for generating revenue, if any, could be adversely affected and our business may suffer.

In March 2010, the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act became law. These health care reform laws are intended to broaden access to health insurance; reduce or constrain the growth of health care spending, especially Medicare spending; enhance remedies against fraud and abuse; add new transparency requirements for health care and health insurance industries; impose new taxes and fees on certain sectors of the health industry; and impose additional health policy reforms. Among the new fees is an annual assessment on makers of branded pharmaceuticals and biologics, under which a company s assessment is based primarily on its share of branded drug sales to federal health care programs. Such fees could affect our future profitability. Although it is too early to determine the effect of the new health care legislation on our future profitability and financial condition, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

Third-party payors are challenging the prices charged for medical products and services, and many third-party payors limit reimbursement for newly-approved health care products. These third-party payors may base their coverage and reimbursement on the coverage and reimbursement rate paid by carriers for Medicare beneficiaries. Furthermore, many such payors are investigating or implementing methods for reducing health care costs, such as the establishment of capitated or prospective payment systems. Cost containment pressures have led to an increased emphasis on the use of cost-effective products by health care providers. In particular, third-party payors may limit the indications for which they will reimburse patients who use any products that we may develop. Cost control initiatives could limit the price we might establish for products that we or our current or future collaborators may develop or sell, which would result in lower product revenues or royalties payable to us.

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We face a risk of product liability claims and may not be able to obtain insurance.

Our business exposes us to the risk of product liability claims that is inherent in the manufacturing, testing, and marketing of human therapeutic drugs. We face an inherent risk of product liability exposure related to the testing of our drug candidates in human clinical trials and will face an even greater risk if we commercially sell any products. Regardless of merit or eventual outcome, liability claims and product recalls may result in:

- decreased demand for our drug candidates and products;
- damage to our reputation;
- regulatory investigations that could require costly recalls or product modifications;
- withdrawal of clinical trial participants;
- costs to defend related litigation;
- substantial monetary awards to clinical trial participants or patients, including awards that substantially exceed our product liability insurance, which we would then have to pay using other sources, if available, and would damage our ability to obtain liability insurance at reasonable costs, or at all, in the future;
- loss of revenue;
- the diversion of management s attention away from managing our business; and
- the inability to commercialize any products that we may develop.

Although we have product liability and clinical trial liability insurance that we believe is adequate, this insurance is subject to deductibles and coverage limitations. We may not be able to obtain or maintain adequate protection against potential liabilities. If we are unable to obtain insurance at acceptable cost or otherwise protect against potential product liability claims, we will be exposed to significant liabilities, which may materially and adversely affect our business and financial position. These liabilities could prevent or interfere with our commercialization efforts.

Risks Relating to Ownership of Our Common Stock

Our corporate governance structure, including provisions in our certificate of incorporation and by-laws and Delaware law, may prevent a change in control or management that stockholders may consider desirable.

Section 203 of the Delaware General Corporation Law and our certificate of incorporation and by-laws contain provisions that might enable our management to resist a takeover of our company or discourage a third party from attempting to take over our company. These provisions include:

a classified board of directors;

limitations on the removal of directors;

limitations on stockholder proposals at meetings of stockholders;

the inability of stockholders to act by written consent or to call special meetings; and

the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval. As part of the financing we consummated in November 2012, we agreed that we would seek stockholder approval of an amendment to the Company s certificate of incorporation and bylaws to eliminate the classified board of directors.

In addition, Section 203 of the Delaware General Corporation Law imposes restrictions on our ability to engage in business combinations and other specified transactions with significant stockholders. These provisions could have the effect of delaying, deferring or preventing a change in control of us or a change in our management that stockholders may consider favorable or beneficial. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors and take other corporate actions. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock.

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The preferred stock and warrants issued to certain affiliates of Pillar Invest Corporation, our largest stockholder group, in connection with our Series D and Series E financing have rights, preferences and privileges that are not held by, and are preferential to the rights of, our common stockholders. As a result, the interests of Pillar and its affiliates may differ from the interests of our common stockholders.

In connection with our Series D redeemable convertible preferred stock financing we issued to Pillar Pharmaceuticals I, L.P., or Pillar I, 1,124,260 shares of our Series D redeemable convertible preferred stock, or Series D preferred stock, which shares are convertible into 6,266,175 shares of our common stock, and warrants exercisable for 2,810,650 shares of our common stock. In connection with our Series E convertible preferred stock financing we issued to Pillar Pharmaceuticals II, L.P., or Pillar II, and an affiliated second purchaser an aggregate of 424,242 shares of our Series E convertible preferred stock, or Series E preferred stock, which shares are convertible into 8,484,840 shares of our common stock, and warrants exercisable for 8,484,840 shares of our common stock. We refer to Pillar I, Pillar II and the affiliated second purchaser collectively as the Pillar Affiliates. As a result, the Pillar Affiliates are collectively our largest stockholder group. In addition, two members of our board of directors are affiliates of the Pillar Affiliates. In connection with their ownership of these securities, the Pillar Affiliates obtained various rights, preferences and privileges that are not held by the holders of our common stock and that in certain instances are preferential to the rights of the holders of our common stock. As a result, the interests of the Pillar Affiliates may differ from the interests of the holders of our common stock in material respects. Although there are contractual limitations on the beneficial ownership and voting rights of the Pillar Affiliates, the Pillar Affiliates may still be able to exert substantial influence over our business.

The securities issued in our Series D and Series E financings have certain rights, preferences and privileges that may adversely affect our common stockholders and that may adversely affect our ability to obtain financing in the future.

The rights, preferences and privileges of the Series D preferred stock and Series E preferred stock that we issued and sold in our November 2011 Series D financing and November 2012 Series E financing, respectively, provide the holders of such securities with significant rights, including preferential rights with respect to dividends, liquidation and, upon certain transactions, redemption, which are not provided to the holders of our common stock. The dividend rights of the Series D preferred stock and Series E preferred stock may adversely affect our liquidity. For example, our obligation to pay quarterly cash dividends to the holders of our preferred stock has reduced and will continue to reduce the funds that would otherwise be available to us for working capital and other general corporate purposes. In addition, under certain circumstances, we are entitled to pay dividends on our Series D preferred stock in shares of common stock. If we were to pay such dividends in common stock, our existing stockholders will experience dilution. In the event of a liquidation, dissolution or winding up of our company, the holders of our Series D preferred stock and Series E preferred stock will be entitled to receive an aggregate of up to approximately $15.4 million before any cash distribution may be made or any other assets may be distributed to the holders of our common stock. Further, pursuant to the redemption rights of the Series D preferred stock, upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions (and in lieu of any liquidation preference the Series D preferred stock may otherwise be entitled to), the holders of shares of our Series D preferred stock may require that we redeem the Series D preferred stock held by them at a cash price equal to the original Series D preferred stock purchase price (approximately $9.1 million in the aggregate) plus all accrued or declared but unpaid dividends thereon.

On April 22, 2013, we entered into an agreement with Pillar I and Pillar II, which we refer to as the April 22, 2013 Pillar Agreement. Under the April 22, 2013 Pillar Agreement, Pillar I, as the sole holder of our Series D preferred stock, irrevocably waived and agreed to not exercise the redemption rights of the holders of our Series D preferred stock. In addition, we and each of Pillar I and Pillar II agreed to modify:

- the dividend provisions of the Series D Certificate of Designations to change the date after which we may elect to pay dividends in shares of our common stock from December 31, 2014 to October 1, 2013;

- the dividend provisions of the Series E Certificate of Designations to allow for the payment of dividends in shares of our common stock commencing October 1, 2013; and

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the dividend provisions of the Series D Certificate of Designations and Series E Certificate of Designations to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership and voting power limitations set forth in the Series D Certificate of Designations and Series E Certificate of Designations, respectively.

In addition, on April 30, 2013, we entered into a second agreement with Pillar I, Pillar II and an entity affiliated with Pillar I and Pillar II, which we refer to collectively as the Pillar Entities. We refer to this agreement as the April 30, 2013 Pillar Agreement, and this agreement and the April 22, 2013 Pillar Agreement as the Pillar Agreements. Under the April 30, 2013 Pillar Agreement, each of the Pillar Entities irrevocably waived the approximate $15.4 million liquidation preference described above in the event of a liquidation, dissolution or winding up of our company.

We agreed to seek approval from our stockholders at our 2013 annual meeting of stockholders of amendments to the Series D Certificate of Designations and Series E Certificate of Designations to effect these changes to the dividend and liquidation provisions of our Series D preferred stock and Series E preferred stock, the redemption rights of the holders of our Series D preferred stock and the rights of the holders of our Series D preferred stock to distributions in the event of a sale of our company, and the Pillar Entities agreed to vote in favor of these amendments.

The Pillar Agreements, including our obligations to issue warrants to the Pillar Entities under the Pillar Agreements, became effective upon the consummation of our follow-on public offering of our securities on May 7, 2013.

The rights, preferences and privileges associated with our Series D preferred stock and Series E preferred stock may adversely affect our ability to obtain financing in the future, including potentially limiting the price that investors might be willing to pay in the future for shares of our common stock or our other securities.

Our stock price has been and may in the future be extremely volatile. In addition, because an active trading market for our common stock has not developed, our investors ability to trade our common stock may be limited. As a result, investors may lose all or a significant portion of their investment.

Our stock price has been volatile. During the period from January 1, 2011 to April 15, 2013, the closing sales price of our common stock ranged from a high of $3.25 per share to a low of $0.46 per share. The stock market has also experienced periods of significant price and volume fluctuations and the market prices of biotechnology companies in particular have been highly volatile, often for reasons that have been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

our cash resources;

timing and results of nonclinical studies and clinical trials of our drug candidates or those of our competitors;

the regulatory status of our drug candidates;

failure of any of our drug candidates, if approved, to achieve commercial success;

the success of competitive products or technologies;

regulatory developments in the United States and foreign countries;

our success in entering into collaborative agreements;

developments or disputes concerning patents or other proprietary rights;

the departure of key personnel;

our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;

variations in our financial results or those of companies that are perceived to be similar to us;

the terms of any financing consummated by us;

changes in the structure of healthcare payment systems;

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market conditions in the pharmaceutical and biotechnology sectors and issuance of new or changed securities analysts reports or recommendations; and

general economic, industry, and market conditions.

In addition, our common stock has historically been traded at low volume levels and may continue to trade at low volume levels. As a result, any large purchase or sale of our common stock could have a significant impact on the price of our common stock and it may be difficult for investors to sell our common stock in the market without depressing the market price for the common stock or at all.

As a result of the foregoing, investors may not be able to resell their shares at or above the price they paid for such shares. Investors in our common stock must be willing to bear the risk of fluctuations in the price of our common stock and the risk that the value of their investment in our stock could decline.

ITEM 6. EXHIBITS.

The list of Exhibits filed as part of this Quarterly Report on Form 10-Q is set forth on the Exhibit Index immediately preceding such Exhibits and is incorporated herein by this reference.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

IDERA PHARMACEUTICALS, INC.

Date: May 15, 2013

/s/ Sudhir Agrawal
Sudhir Agrawal
Chairman, President and Chief Executive Officer

(Principal Executive Officer)

Date: May 15, 2013

/s/ Louis J. Arcudi, III
Louis J. Arcudi, III
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit Index

Exhibit No.	
10.1	Agreement, dated April 22, 2013, among the Company, Pillar Pharmaceuticals I, L.P. and Pillar Pharmaceuticals II, L.P. (incorporated by reference to the exhibits to the Company s Current Report on Form 8-K filed April 23, 2013).
10.2	Agreement, dated April 30, 2013, among the Company, Pillar Pharmaceuticals I, L.P., Pillar Pharmaceuticals II, L.P. and Participations Besancon (incorporated by reference to exhibits to the Company s Registration Statement on Form S-1, file number 333-187155, filed on May 1, 2013).
10.3	Form of Warrant issued to purchasers in the Company s registered public offering on the Company s registration statement on Form S-1 (File No. 333-187155)
10.4	Form of Warrant issued to entities affiliated with Pillar Invest Corporation in the Company s registered public offering on the Company s registration statement on Form S-1 (File No. 333-187155)
10.5	Form of Pre-Funded Warrant issued to purchasers in the Company s registered public offering on the Company s registration statement on Form S-1 (File No. 333-187155)
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Labels Linkbase Document

101.PRE* XBRL Taxonomy Extension Presentation Linkbase Document

* Pursuant to Rule 406T of Regulation S-T, the Interactive Data Files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

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Exhibit 10.3

THE WARRANTS INITIALLY WILL BE REPRESENTED BY ONE OR MORE PERMANENT GLOBAL CERTIFICATES IN FULLY REGISTERED FORM AND WILL BE DEPOSITED WITH A CUSTODIAN FOR, AND REGISTERED IN THE NAME OF, A NOMINEE OF THE DEPOSITORY TRUST COMPANY, NEW YORK, NEW YORK (DTC), AS DEPOSITARY.

IDERA PHARMACEUTICALS, INC.

WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [ ]

(subject to adjustment)

Warrant No. Original Issue Date: [ ], 2013

Idera Pharmaceuticals, Inc., a Delaware corporation (the *Company*), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, or its permitted registered assigns (the *Holder*), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of shares of common stock, $0.001 par value per share (the *Common Stock*), of the Company (each such share, a *Warrant Share* and all such shares, the *Warrant Shares*) at an exercise price per share equal to $0.47 per share (as adjusted from time to time as provided in Section 9 herein, the *Exercise Price*), upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the *Warrant*) at any time and from time to time on or after the date hereof (the *Original Issue Date*) and through and including 5:30 P.M., New York City time, on the date that is five years following the Original Issue Date (the *Expiration Date*), and subject to the following terms and conditions:

1. Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) *Commission* means the United States Securities and Exchange Commission.

(b) *Closing Sale Price* means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets, or, if no last trade price is reported for such security by Bloomberg Financial Markets, the average of the bid and ask prices, of any market makers for such security as reported in the pink sheets by Pink Sheets LLC. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(c) *Principal Trading Market* means the Trading Market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date shall be the Nasdaq Capital Market.

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(d) *Registration Statement* means the Company s Registration Statement on Form S-1, as amended (File No. 333-187155), initially filed on March 11, 2013.

(e) *Securities Act* means the Securities Act of 1933, as amended.

(f) *Transfer Agent* means Computershare Shareowner Services LLC, the Company s transfer agent for the Common Stock and Warrants.

2. Registration of Warrants. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the *Warrant Register*), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any registered assignee to which this Warrant is permissibly assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. Registration of Transfers. Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes. Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a *New Warrant*) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company s own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by Section 10 of this Warrant at any time and from time to time on or after the Original Issue Date and through and including 5:30 P.M. New York City time, on the Expiration Date. At 5:30 P.M., New York City time, on the Expiration Date, the portion of this Warrant not exercised prior thereto shall be and become void and of no value and this Warrant shall be terminated and no longer outstanding.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the *Exercise Notice*), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a cashless exercise if so indicated in the Exercise Notice and if a cashless exercise may occur at such time pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an *Exercise Date*. The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares.

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5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than three (3) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder s or its designee s balance account with The Depository Trust Company (*DTC*) through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the *FAST Program*) or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, or any Person permissibly so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(b) If by the close of the third (3rd) Trading Day after the Exercise Date, the Company fails to deliver to the Holder a certificate representing the required number of Warrant Shares in the manner required pursuant to Section 5(a) or fails to credit the Holder s balance account with DTC for such number of Warrant Shares to which the Holder is entitled, and if after such third (3rd) Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a *Buy-In*), then the Company shall, within three (3) Trading Days after the Holder s request and in the Holder s sole discretion, either (1) pay in cash to the Holder an amount equal to the Holder s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the *Buy-In Price*), at which point the Company s obligation to deliver such certificate (and to issue such Warrant Shares) shall terminate or (2) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such Warrant Shares and pay cash to the Holder in an amount equal to the excess (if any) of Holder s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased in the Buy-In over the product of (A) the number of shares of Common Stock purchased in the Buy-In, times (B) the closing bid price of a share of Common Stock on the Exercise Date.

(c) To the extent permitted by law, the Company s obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit the Holder s right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company s failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

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6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company s obligation to issue the New Warrant.

8. Reservation of Warrant Shares. The Company covenants that it will at all times while this Warrant is outstanding reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and nonassessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed.

9. Certain Adjustments. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock, other than Series E Preferred Stock or Series D Preferred Stock issued and outstanding on the Original Issue Date and in accordance with the terms of such stock on the Original Issue Date or as amended, as described in the Registration Statement, that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant

to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph) or (iii) rights or warrants to subscribe for or purchase any security, or (iv) any other asset (in each case, *Distributed Property*), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein.

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock who tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a *Fundamental Transaction*), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the *Alternate Consideration*). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

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(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to paragraphs (a) of this Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 9 shall be made to the nearest cent or the nearest share, as applicable.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company s transfer agent.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate

in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice. In addition, if while this Warrant is outstanding, the Company authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least seventy five (75) days prior to the date such Fundamental Transaction is consummated. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

10. Payment of Exercise Price. Notwithstanding anything contained herein to the contrary, if a registration statement registering the issuance of the Warrant Shares under the Securities Act is not effective or available for the issuance of the Warrant Shares and an exemption from registration under the Securities Act is not available for the issuance of the Warrant Shares, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a cashless exercise , in which event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

X = Y [(A-B)/A]

where:

X equals the number of Warrant Shares to be issued to the Holder;

Y equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

A equals the average of the Closing Sale Prices of the shares of Common Stock (as reported by Bloomberg Financial Markets) for the five (5) consecutive Trading Days ending on the date immediately preceding the Exercise Date; and

B equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a cashless exercise transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise).

11. Limitations on Exercise.

(a) Notwithstanding anything to the contrary contained herein, the number of Warrant Shares that may be acquired by the Holder upon any exercise of this Warrant (or otherwise in respect hereof) shall be limited to the extent necessary to ensure that, following such exercise (or other issuance), the total number of shares of Common Stock then beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act, does not exceed 4.999% of the total number of then issued and outstanding shares of Common Stock (including for such purpose the shares of Common Stock issuable upon such exercise), it being acknowledged by the Holder that the Company is not representing to such Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and such Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 11(a) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which a portion of this Warrant is exercisable shall be in the sole discretion of a Holder, and

the submission of a Notice of Exercise shall be deemed to be the Holder s determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which portion of this Warrant is exercisable, in each case subject to such aggregate percentage limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination under this Section 11(a) as to any group status shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 11(a), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company s most recent Form 10-Q or Form 10-K, as the case may be, (y) a more recent public announcement by the Company or (z) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within three (3) Trading Days confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. By written notice to the Company, which will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, the Holder may waive the provisions of this Section 11(a) (but such waiver will not affect any other holder) to change the beneficial ownership limitation to such percentage of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant as the Holder shall determine, in its sole discretion, subject to Section 11(b), and the provisions of this Section 11(a) shall continue to apply. Upon such a change by a Holder of the beneficial ownership limitation from such 4.999% limitation to such other percentage limitation, the beneficial ownership limitation may not be further waived by such Holder without first providing the minimum notice required by this Section 11(a). Notwithstanding the foregoing, at any time following notice of a Fundamental Transaction under Section 9(g)(ii) with respect to a Section 9(c)(iii) Fundamental Transaction, the Holder may waive and/or change the beneficial ownership limitation effective immediately upon written notice to the Company and may reinstitute a beneficial ownership limitation at any time thereafter effective immediately upon written notice to the Company.

(b) Notwithstanding anything to the contrary contained herein, including Section 11(a), the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act, to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Company then outstanding following such exercise. For purposes of this Section 11(b), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (x) exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (y) exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including without limitation any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act.

(c) This Section 11 shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9 of this Warrant.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the Closing Sale Price) for any such fractional shares.

13. Redemption of Warrants.

(a) At any time on or after the date that is two years following the Original Issue Date, subject to the terms of this Section 13, the Company shall have the right to redeem all or a portion of this Warrant for a redemption price (the *Redemption Price*) equal to the result obtained by multiplying (i) $0.01 by (ii) the number of Warrant Shares that the Holder is entitled to purchase upon exercise of all or the portion of this Warrant that is being redeemed (such Redemption Price being subject to adjustment for stock splits, stock dividends, combinations, recapitalizations, reclassifications, and similar transactions affecting the Common Stock) following notice to the holder thereof if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 (subject to adjustment).

(b) The Company shall exercise this redemption right by providing at least thirty (30) days prior written notice to the Holder of such redemption (the *Redemption Notice*). Such Redemption Notice shall be provided to the Holder in accordance with Section 14 of this Warrant. The Redemption Notice shall specify the time, manner and place of redemption, including without limitation the date on which this Warrant shall be redeemed (the *Redemption Date*) and the Redemption Price payable to the Holder (assuming that this Warrant is not exercised on or prior to the Redemption Date).

(c) Notwithstanding the foregoing, the Company may not redeem any part of this Warrant which may not be exercised by the redeeming Holder as of the date of the Redemption Notice under Section 11 of this Warrant.

14. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent prior to 5:30 P.M., New York City time, on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery.

15. Warrant Agent. The Transfer Agent shall serve as warrant agent under this Warrant. Upon thirty (30) days notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder s last address as shown on the Warrant Register.

16. Miscellaneous.

(a) No Rights as a Stockholder. The Holder, solely in such Person s capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person s capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

(b) Authorized Shares. (i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (a) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant, and (c) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(ii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to the restrictions on transfer set forth in this Warrant and compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holders of Warrants representing no less than a majority of the Warrant Shares obtainable upon exercise of the Warrants then outstanding.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH

RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

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SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

(1) The undersigned is the Holder of Warrant No. (the *Warrant*) issued by Idera Pharmaceuticals, Inc., a Delaware corporation (the *Company*). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.

(3) The Holder intends that payment of the Exercise Price shall be made as (check one):

¨ Cash Exercise

¨ Cashless Exercise under Section 10 of the Warrant

(4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of $ in immediately available funds to the Company in accordance with the terms of the Warrant.

(5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.

(6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934) permitted to be owned under Section 11(a) or Section 11(b), as applicable, of the Warrant to which this notice relates.

Dated: _____

Name of Holder: _____

By: _____

Name: _____

Title: _____

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

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Exhibit 10.4

THE WARRANTS INITIALLY WILL BE REPRESENTED BY ONE OR MORE PERMANENT GLOBAL CERTIFICATES IN FULLY REGISTERED FORM AND WILL BE DEPOSITED WITH A CUSTODIAN FOR, AND REGISTERED IN THE NAME OF, A NOMINEE OF THE DEPOSITORY TRUST COMPANY, NEW YORK, NEW YORK (DTC), AS DEPOSITARY.

IDERA PHARMACEUTICALS, INC.

WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [ ]

(subject to adjustment)

Warrant No. Original Issue Date: [ ], 2013

Idera Pharmaceuticals, Inc., a Delaware corporation (the *Company*), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, or its permitted registered assigns (the *Holder*), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of shares of common stock, $0.001 par value per share (the *Common Stock*), of the Company (each such share, a *Warrant Share* and all such shares, the *Warrant Shares*) at an exercise price per share equal to $0.47 per share (as adjusted from time to time as provided in Section 9 herein, the *Exercise Price*), upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the *Warrant*) at any time and from time to time on or after the date hereof (the *Original Issue Date*) and through and including 5:30 P.M., New York City time, on the date that is five years following the Original Issue Date (the *Expiration Date*), and subject to the following terms and conditions:

1. Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) *Commission* means the United States Securities and Exchange Commission.

(b) *Closing Sale Price* means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets, or, if no last trade price is reported for such security by Bloomberg Financial Markets, the average of the bid and ask prices, of any market makers for such security as reported in the pink sheets by Pink Sheets LLC. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(c) *Principal Trading Market* means the Trading Market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date shall be the Nasdaq Capital Market.

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(d) *Registration Statement* means the Company s Registration Statement on Form S-1, as amended (File No. 333-187155), initially filed on March 11, 2013.

(e) *Securities Act* means the Securities Act of 1933, as amended.

(f) *Transfer Agent* means Computershare Shareowner Services LLC, the Company s transfer agent for the Common Stock and Warrants.

2. Registration of Warrants. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the *Warrant Register*), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any registered assignee to which this Warrant is permissibly assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. Registration of Transfers. Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes. Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a *New Warrant*) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company s own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by Section 10 of this Warrant at any time and from time to time on or after the Original Issue Date and through and including 5:30 P.M. New York City time, on the Expiration Date. At 5:30 P.M., New York City time, on the Expiration Date, the portion of this Warrant not exercised prior thereto shall be and become void and of no value and this Warrant shall be terminated and no longer outstanding.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the *Exercise Notice*), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a cashless exercise if so indicated in the Exercise Notice and if a cashless exercise may occur at such time pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an *Exercise Date*. The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares.

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5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than three (3) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder s or its designee s balance account with The Depository Trust Company (*DTC*) through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the *FAST Program*) or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, or any Person permissibly so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(b) If by the close of the third (3rd) Trading Day after the Exercise Date, the Company fails to deliver to the Holder a certificate representing the required number of Warrant Shares in the manner required pursuant to Section 5(a) or fails to credit the Holder s balance account with DTC for such number of Warrant Shares to which the Holder is entitled, and if after such third (3rd) Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a *Buy-In*), then the Company shall, within three (3) Trading Days after the Holder s request and in the Holder s sole discretion, either (1) pay in cash to the Holder an amount equal to the Holder s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the *Buy-In Price*), at which point the Company s obligation to deliver such certificate (and to issue such Warrant Shares) shall terminate or (2) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such Warrant Shares and pay cash to the Holder in an amount equal to the excess (if any) of Holder s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased in the Buy-In over the product of (A) the number of shares of Common Stock purchased in the Buy-In, times (B) the closing bid price of a share of Common Stock on the Exercise Date.

(c) To the extent permitted by law, the Company s obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit the Holder s right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company s failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

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6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company s obligation to issue the New Warrant.

8. Reservation of Warrant Shares. The Company covenants that it will at all times while this Warrant is outstanding reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and nonassessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed.

9. Certain Adjustments. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock, other than Series E Preferred Stock or Series D Preferred Stock issued and outstanding on the Original Issue Date and in accordance with the terms of such stock on the Original Issue Date or as amended, as described in the Registration Statement, that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant

to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph) or (iii) rights or warrants to subscribe for or purchase any security, or (iv) any other asset (in each case, *Distributed Property*), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein.

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock who tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a *Fundamental Transaction*), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the *Alternate Consideration*). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

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(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to paragraphs (a) of this Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 9 shall be made to the nearest cent or the nearest share, as applicable.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company s transfer agent.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate

in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice. In addition, if while this Warrant is outstanding, the Company authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least seventy five (75) days prior to the date such Fundamental Transaction is consummated. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

10. Payment of Exercise Price. Notwithstanding anything contained herein to the contrary, if a registration statement registering the issuance of the Warrant Shares under the Securities Act is not effective or available for the issuance of the Warrant Shares and an exemption from registration under the Securities Act is not available for the issuance of the Warrant Shares, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a cashless exercise , in which event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

X = Y [(A-B)/A]

where:

X equals the number of Warrant Shares to be issued to the Holder;

Y equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

A equals the average of the Closing Sale Prices of the shares of Common Stock (as reported by Bloomberg Financial Markets) for the five (5) consecutive Trading Days ending on the date immediately preceding the Exercise Date; and

B equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a cashless exercise transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise).

11. Limitations on Exercise.

(a) Notwithstanding anything to the contrary contained herein, the number of Warrant Shares that may be acquired by the Holder upon any exercise of this Warrant (or otherwise in respect hereof) shall be limited to the extent necessary to ensure that, following such exercise (or other issuance), the total number of shares of Common Stock then beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act, does not exceed 4.999% of the total number of then issued and outstanding shares of Common Stock (including for such purpose the shares of Common Stock issuable upon such exercise), it being acknowledged by the Holder that the Company is not representing to such Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and such Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 11(a) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which a portion of this Warrant is exercisable shall be in the sole discretion of a Holder, and

the submission of a Notice of Exercise shall be deemed to be the Holder s determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which portion of this Warrant is exercisable, in each case subject to such aggregate percentage limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination under this Section 11(a) as to any group status shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 11(a), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company s most recent Form 10-Q or Form 10-K, as the case may be, (y) a more recent public announcement by the Company or (z) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within three (3) Trading Days confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. By written notice to the Company, which will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, the Holder may waive the provisions of this Section 11(a) (but such waiver will not affect any other holder) to change the beneficial ownership limitation to such percentage of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant as the Holder shall determine, in its sole discretion, subject to Section 11(b), and the provisions of this Section 11(a) shall continue to apply. Upon such a change by a Holder of the beneficial ownership limitation from such 4.999% limitation to such other percentage limitation, the beneficial ownership limitation may not be further waived by such Holder without first providing the minimum notice required by this Section 11(a). Notwithstanding the foregoing, at any time following notice of a Fundamental Transaction under Section 9(g)(ii) with respect to a Section 9(c)(iii) Fundamental Transaction, the Holder may waive and/or change the beneficial ownership limitation effective immediately upon written notice to the Company and may reinstitute a beneficial ownership limitation at any time thereafter effective immediately upon written notice to the Company.

(b) Notwithstanding anything to the contrary contained herein, including Section 11(a), the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act, to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Company then outstanding following such exercise, unless, in either case, the stockholders of the Company approve the Nasdaq Proposal (as defined by and in accordance with Section 5.11(B) of that certain Convertible Preferred Stock and Warrant Purchase Agreement, dated November 9, 2012, among the Company, Pillar Pharmaceuticals II, L.P. and the other parties thereto), in which case, the 19.99% limitation under clause (i) and clause (ii) of this Section 11(b) shall be increased, with respect to the Holder, to 35% for purposes of both clause (i) and clause (ii) of this Section 11(b). For purposes of this Section 11(b), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (x) exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (y) exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including without limitation any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act.

(c) This Section 11 shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9 of this Warrant.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the Closing Sale Price) for any such fractional shares.

13. Redemption of Warrants.

(a) At any time on or after the date that is two years following the Original Issue Date, subject to the terms of this Section 13, the Company shall have the right to redeem all or a portion of this Warrant for a redemption price (the *Redemption Price*) equal to the result obtained by multiplying (i) $0.01 by (ii) the number of Warrant Shares that the Holder is entitled to purchase upon exercise of all or the portion of this

Warrant that is being redeemed (such Redemption Price being subject to adjustment for stock splits, stock dividends, combinations, recapitalizations, reclassifications, and similar transactions affecting the Common Stock) following notice to the holder thereof if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 (subject to adjustment).

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(b) The Company shall exercise this redemption right by providing at least thirty (30) days prior written notice to the Holder of such redemption (the *Redemption Notice*). Such Redemption Notice shall be provided to the Holder in accordance with Section 14 of this Warrant. The Redemption Notice shall specify the time, manner and place of redemption, including without limitation the date on which this Warrant shall be redeemed (the *Redemption Date*) and the Redemption Price payable to the Holder (assuming that this Warrant is not exercised on or prior to the Redemption Date).

(c) Notwithstanding the foregoing, the Company may not redeem any part of this Warrant which may not be exercised by the redeeming Holder as of the date of the Redemption Notice under Section 11 of this Warrant.

14. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent prior to 5:30 P.M., New York City time, on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery.

15. Warrant Agent. The Transfer Agent shall serve as warrant agent under this Warrant. Upon thirty (30) days notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder s last address as shown on the Warrant Register.

16. Miscellaneous.

(a) No Rights as a Stockholder. The Holder, solely in such Person s capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person s capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

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(b) Authorized Shares. (i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (a) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant, and (c) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(ii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to the restrictions on transfer set forth in this Warrant and compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holders of Warrants representing no less than a majority of the Warrant Shares obtainable upon exercise of the Warrants then outstanding.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH

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RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

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SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

(1) The undersigned is the Holder of Warrant No. (the *Warrant*) issued by Idera Pharmaceuticals, Inc., a Delaware corporation (the *Company*). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.

(3) The Holder intends that payment of the Exercise Price shall be made as (check one):

¨ Cash Exercise

¨ Cashless Exercise under Section 10 of the Warrant

(4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of $ in immediately available funds to the Company in accordance with the terms of the Warrant.

(5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.

(6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934) permitted to be owned under Section 11(a) or Section 11(b), as applicable, of the Warrant to which this notice relates.

Dated: _____

Name of Holder: _____

By: _____

Name: _____

Title: _____

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

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Exhibit 10.5

THE WARRANTS INITIALLY WILL BE REPRESENTED BY ONE OR MORE PERMANENT GLOBAL CERTIFICATES IN FULLY REGISTERED FORM AND WILL BE DEPOSITED WITH A CUSTODIAN FOR, AND REGISTERED IN THE NAME OF, A NOMINEE OF THE DEPOSITORY TRUST COMPANY, NEW YORK, NEW YORK (DTC), AS DEPOSITARY.

IDERA PHARMACEUTICALS, INC.

WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [ ]

(subject to adjustment)

Warrant No. Original Issue Date: [ ], 2013

Idera Pharmaceuticals, Inc., a Delaware corporation (the *Company*), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, or its permitted registered assigns (the *Holder*), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of shares of common stock, $0.001 par value per share (the *Common Stock*), of the Company (each such share, a *Warrant Share* and all such shares, the *Warrant Shares*) at an exercise price per share equal to $0.01 per share (as adjusted from time to time as provided in Section 9 herein, the *Exercise Price*), upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the *Warrant*) at any time and from time to time on or after the date hereof (the *Original Issue Date*) and through and including 5:30 P.M., New York City time, on the date that is seven years following the Original Issue Date (the *Expiration Date*), and subject to the following terms and conditions:

1. Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) *Commission* means the United States Securities and Exchange Commission.

(b) *Closing Sale Price* means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets, or, if no last trade price is reported for such security by Bloomberg Financial Markets, the average of the bid and ask prices, of any market makers for such security as reported in the pink sheets by Pink Sheets LLC. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(c) *Principal Trading Market* means the Trading Market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date shall be the Nasdaq Capital Market.

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(d) *Registration Statement* means the Company s Registration Statement on Form S-1, as amended (File No. 333-187155), initially filed on March 11, 2013.

(e) *Securities Act* means the Securities Act of 1933, as amended.

(f) *Transfer Agent* means Computershare Shareowner Services LLC, the Company s transfer agent for the Common Stock and Warrants.

2. Registration of Warrants. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the *Warrant Register*), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any registered assignee to which this Warrant is permissibly assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. Registration of Transfers. Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes. Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a *New Warrant*) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company s own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by Section 10 of this Warrant at any time and from time to time on or after the Original Issue Date and through and including 5:30 P.M. New York City time, on the Expiration Date. At 5:30 P.M., New York City time, on the Expiration Date, the portion of this Warrant not exercised prior thereto shall be and become void and of no value and this Warrant shall be terminated and no longer outstanding.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the *Exercise Notice*), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a cashless exercise if so indicated in the Exercise Notice and if a cashless exercise may occur at such time pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an *Exercise Date*. The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares.

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5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than three (3) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder s or its designee s balance account with The Depository Trust Company (*DTC*) through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the *FAST Program*) or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, or any Person permissibly so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(b) If by the close of the third (3rd) Trading Day after the Exercise Date, the Company fails to deliver to the Holder a certificate representing the required number of Warrant Shares in the manner required pursuant to Section 5(a) or fails to credit the Holder s balance account with DTC for such number of Warrant Shares to which the Holder is entitled, and if after such third (3rd) Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a *Buy-In*), then the Company shall, within three (3) Trading Days after the Holder s request and in the Holder s sole discretion, either (1) pay in cash to the Holder an amount equal to the Holder s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the *Buy-In Price*), at which point the Company s obligation to deliver such certificate (and to issue such Warrant Shares) shall terminate or (2) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such Warrant Shares and pay cash to the Holder in an amount equal to the excess (if any) of Holder s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased in the Buy-In over the product of (A) the number of shares of Common Stock purchased in the Buy-In, times (B) the closing bid price of a share of Common Stock on the Exercise Date.

(c) To the extent permitted by law, the Company s obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit the Holder s right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company s failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

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6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company s obligation to issue the New Warrant.

8. Reservation of Warrant Shares. The Company covenants that it will at all times while this Warrant is outstanding reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and nonassessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed.

9. Certain Adjustments. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock, other than Series E Preferred Stock or Series D Preferred Stock issued and outstanding on the Original Issue Date and in accordance with the terms of such stock on the Original Issue Date or as amended, as described in the Registration Statement, that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant

to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph) or (iii) rights or warrants to subscribe for or purchase any security, or (iv) any other asset (in each case, *Distributed Property*), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein.

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock who tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a *Fundamental Transaction*), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the *Alternate Consideration*). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

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(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to paragraphs (a) of this Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 9 shall be made to the nearest cent or the nearest share, as applicable.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company s transfer agent.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate

in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice. In addition, if while this Warrant is outstanding, the Company authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least seventy five (75) days prior to the date such Fundamental Transaction is consummated. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

10. Payment of Exercise Price. Notwithstanding anything contained herein to the contrary, if a registration statement registering the issuance of the Warrant Shares under the Securities Act is not effective or available for the issuance of the Warrant Shares and an exemption from registration under the Securities Act is not available for the issuance of the Warrant Shares, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a cashless exercise , in which event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

X = Y [(A-B)/A]

where:

X equals the number of Warrant Shares to be issued to the Holder;

Y equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

A equals the average of the Closing Sale Prices of the shares of Common Stock (as reported by Bloomberg Financial Markets) for the five (5) consecutive Trading Days ending on the date immediately preceding the Exercise Date; and

B equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a cashless exercise transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise).

11. Limitations on Exercise.

(a) Notwithstanding anything to the contrary contained herein, the number of Warrant Shares that may be acquired by the Holder upon any exercise of this Warrant (or otherwise in respect hereof) shall be limited to the extent necessary to ensure that, following such exercise (or other issuance), the total number of shares of Common Stock then beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act, does not exceed 4.999% of the total number of then issued and outstanding shares of Common Stock (including for such purpose the shares of Common Stock issuable upon such exercise), it being acknowledged by the Holder that the Company is not representing to such Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and such Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 11(a) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which a portion of this Warrant is exercisable shall be in the sole discretion of a Holder, and

the submission of a Notice of Exercise shall be deemed to be the Holder s determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which portion of this Warrant is exercisable, in each case subject to such aggregate percentage limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination under this Section 11(a) as to any group status shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 11(a), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company s most recent Form 10-Q or Form 10-K, as the case may be, (y) a more recent public announcement by the Company or (z) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within three (3) Trading Days confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. By written notice to the Company, which will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, the Holder may waive the provisions of this Section 11(a) (but such waiver will not affect any other holder) to change the beneficial ownership limitation to such percentage of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant as the Holder shall determine, in its sole discretion, subject to Section 11(b), and the provisions of this Section 11(a) shall continue to apply. Upon such a change by a Holder of the beneficial ownership limitation from such 4.999% limitation to such other percentage limitation, the beneficial ownership limitation may not be further waived by such Holder without first providing the minimum notice required by this Section 11(a). Notwithstanding the foregoing, at any time following notice of a Fundamental Transaction under Section 9(g)(ii) with respect to a Section 9(c)(iii) Fundamental Transaction, the Holder may waive and/or change the beneficial ownership limitation effective immediately upon written notice to the Company and may reinstitute a beneficial ownership limitation at any time thereafter effective immediately upon written notice to the Company.

(b) Notwithstanding anything to the contrary contained herein, including Section 11(a), the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act, to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Company then outstanding following such exercise. For purposes of this Section 11(b), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (x) exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (y) exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including without limitation any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder s for purposes of Section 13(d) of the Exchange Act.

(c) This Section 11 shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9 of this Warrant.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the Closing Sale Price) for any such fractional shares.

13. Redemption of Warrants.

(a) At any time on or after the date that is two years following the Original Issue Date, subject to the terms of this Section 13, the Company shall have the right to redeem all or a portion of this Warrant for a redemption price (the *Redemption Price*) equal to the result obtained by multiplying (i) $0.01 by (ii) the number of Warrant Shares that the Holder is entitled to purchase upon exercise of all or the portion of this Warrant that is being redeemed (such Redemption Price being subject to adjustment for stock splits, stock dividends, combinations, recapitalizations, reclassifications, and similar transactions affecting the Common Stock) following notice to the holder thereof if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 (subject to adjustment).

(b) The Company shall exercise this redemption right by providing at least thirty (30) days prior written notice to the Holder of such redemption (the *Redemption Notice*). Such Redemption Notice shall be provided to the Holder in accordance with Section 14 of this Warrant. The Redemption Notice shall specify the time, manner and place of redemption, including without limitation the date on which this Warrant shall be redeemed (the *Redemption Date*) and the Redemption Price payable to the Holder (assuming that this Warrant is not exercised on or prior to the Redemption Date).

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(c) Notwithstanding the foregoing, the Company may not redeem any part of this Warrant which may not be exercised by the redeeming Holder as of the date of the Redemption Notice under Section 11 of this Warrant.

14. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent prior to 5:30 P.M., New York City time, on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery.

15. Warrant Agent. The Transfer Agent shall serve as warrant agent under this Warrant. Upon thirty (30) days notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder s last address as shown on the Warrant Register.

16. Miscellaneous.

(a) No Rights as a Stockholder. The Holder, solely in such Person s capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person s capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

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(b) Authorized Shares. (i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (a) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant, and (c) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(ii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to the restrictions on transfer set forth in this Warrant and compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holders of Warrants representing no less than a majority of the Warrant Shares obtainable upon exercise of the Warrants then outstanding.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH

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RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

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SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

(1) The undersigned is the Holder of Warrant No. (the *Warrant*) issued by Idera Pharmaceuticals, Inc., a Delaware corporation (the *Company*). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.

(3) The Holder intends that payment of the Exercise Price shall be made as (check one):

¨ Cash Exercise

¨ Cashless Exercise under Section 10 of the Warrant

(4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of $ in immediately available funds to the Company in accordance with the terms of the Warrant.

(5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.

(6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934) permitted to be owned under Section 11(a) or Section 11(b), as applicable, of the Warrant to which this notice relates.

Dated: _____

Name of Holder: _____

By: _____

Name: _____

Title: _____

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

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EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO EXCHANGE ACT RULES 13a-14 AND

15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

I, Sudhir Agrawal, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant s internal control over financial reporting that occurred during the registrant s most recent fiscal quarter (the registrant s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant s internal control over financial reporting; and

5. The registrant s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant s auditors and the audit committee of the registrant s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant s internal control over financial reporting.

Dated: May 15, 2013

/s/ SUDHIR AGRAWAL
Sudhir Agrawal
Chief Executive Officer

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EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO EXCHANGE ACT RULES 13a-14 AND

15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

I, Louis J. Arcudi, III certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant s internal control over financial reporting that occurred during the registrant s most recent fiscal quarter (the registrant s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant s internal control over financial reporting; and

5. The registrant s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant s auditors and the audit committee of the registrant s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant s internal control over financial reporting.

Dated: May 15, 2013

/s/ LOUIS J. ARCUDI, III
Louis J. Arcudi, III
Chief Financial Officer

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EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS

ADOPTED

PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc. (the Company) for the period ended March 31, 2013 as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned, Sudhir Agrawal, Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to Idera Pharmaceuticals, Inc. and will be retained by Idera Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Dated: May 15, 2013

/s/ SUDHIR AGRAWAL
Sudhir Agrawal
Chief Executive Officer

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EXHIBIT 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS

ADOPTED

PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc. (the Company) for the period ended March 31, 2013 as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned, Louis J. Arcudi, III, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to Idera Pharmaceuticals, Inc. and will be retained by Idera Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Dated: May 15, 2013

/s/ LOUIS J. ARCUDI, III
Louis J. Arcudi, III
Chief Financial Officer

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

x **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2013

or

¨ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For transition period from _____ to _____.

Commission File Number: 001-31918

IDERA PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**04-3072298**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
167 Sidney Street	
Cambridge, Massachusetts	**02139**
(Address of principal executive offices)	**(zip code)**

(617) 679-5500

(Registrant s telephone number, including area code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ¨	Accelerated filer ¨
Non-accelerated filer x (Do not check if a smaller reporting company)	Smaller reporting company ¨

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No x

Common Stock, par value $.001 per share	**45,177,660**
Class	**Outstanding as of July 31, 2013**

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IDERA PHARMACEUTICALS, INC.

FORM 10-Q

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IMO® and Idera® are our trademarks. All other trademarks and service marks appearing in this Quarterly Report on Form 10-Q are the property of their respective owners.

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FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included or incorporated in this report regarding our strategy, future operations, collaborations, intellectual property, cash resources, financial position, future revenues, projected costs, prospects, plans, and objectives of management are forward-looking statements. The words believes, anticipates, estimates, plans, expects, intends, may, could, should, potential, likely, projects, continue, will, and wo are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. These important factors include those set forth below under Part II, Item 1A Risk Factors. These factors and the other cautionary statements made in this Quarterly Report on Form 10-Q should be read as being applicable to all related forward-looking statements whenever they appear in this Quarterly Report on Form 10-Q. In addition, any forward-looking statements represent our estimates only as of the date that this Quarterly Report on Form 10-Q is filed with the Securities and Exchange Commission and should not be relied upon as representing our estimates as of any subsequent date. We do not assume any obligation to update any forward-looking statements. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

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PART I FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

IDERA PHARMACEUTICALS, INC.

CONDENSED BALANCE SHEETS

(UNAUDITED)

(In thousands, except per share amounts)	June 30, 2013	December 31, 2012
ASSETS		
Current assets:		
Cash and cash equivalents	$ 16,301	$ 10,096
Restricted cash	311	
Prepaid expenses and other current assets	202	198
Total current assets	16,814	10,294
Property and equipment, net	144	218
Restricted cash		311
Total assets	$ 16,958	$ 10,823
LIABILITIES, REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS EQUITY		
Current liabilities:		
Accounts payable	$ 767	$ 1,129
Accrued expenses	2,257	3,002
Total current liabilities	3,024	4,131
Other liabilities	7	65
Total liabilities	3,031	4,196
Commitments and contingencies		
Series D Redeemable Convertible Preferred Stock, $0.01 par value, Designated, issued and outstanding 1,124 shares at December 31, 2012		5,921
Non-redeemable preferred stock, common stock, and other stockholders equity:		
Preferred stock, $0.01 par value, Authorized 5,000 shares		
Series E convertible preferred stock, Designated, issued and outstanding 424 shares	5,528	3,701
Series D convertible preferred stock, Designated, issued and outstanding 1,124 shares at June 30, 2013	5,464	
Series A convertible preferred stock, Designated 1,500 shares, issued and outstanding 1 share		
Common stock, $0.001 par value, Authorized 140,000 shares, issued and outstanding 45,165 and 27,643 shares at June 30, 2013 and December 31, 2012, respectively	45	28
Additional paid-in capital	404,946	391,635
Accumulated deficit	(402,056)	(394,658)
Total stockholders equity	13,927	706
Total liabilities, redeemable preferred stock and stockholders equity	$ 16,958	$ 10,823

The accompanying notes are an integral part of these financial statements.

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IDERA PHARMACEUTICALS, INC.

CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(UNAUDITED)

(In thousands, except per share amounts)	Three Months Ended June 30, 2013	Three Months Ended June 30, 2012	Six Months Ended June 30, 2013	Six Months Ended June 30, 2012
Alliance revenue	$ 29	$ 28	$ 36	$ 37
Operating expenses:				
Research and development	1,997	3,504	4,325	7,317
General and administrative	1,599	1,848	3,126	3,537
Total operating expenses	3,596	5,352	7,451	10,854
Loss from operations	(3,567)	(5,324)	(7,415)	(10,817)
Other income (expense):				
Decrease (increase) in fair value of warrant liability		1,318		(3)
Investment income, net	2	2	4	6
Foreign currency exchange (loss) gain	(26)	117	13	41
Net loss	(3,591)	(3,887)	(7,398)	(10,773)
Loss on extinguishment of convertible preferred stock and preferred stock dividends	2,030	160	2,309	320
Net loss applicable to common stockholders	$ (5,621)	$ (4,047)	$ (9,707)	$ (11,093)
Basic and diluted net loss per common share applicable to common stockholders (Note 11)	$ (0.15)	$ (0.15)	$ (0.30)	$ (0.40)
Shares used in computing basic and diluted net loss per common share applicable to common stockholders	38,048	27,638	32,875	27,638
Comprehensive loss	$ (3,591)	$ (3,887)	$ (7,398)	$ (10,773)

The accompanying notes are an integral part of these financial statements.

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IDERA PHARMACEUTICALS, INC.

CONDENSED STATEMENTS OF CASH FLOWS

(UNAUDITED)

(In thousands)	Six Months Ended June 30, 2013	2012
Cash Flows from Operating Activities:		
Net loss	$ (7,398)	$ (10,773)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	518	1,123
Issuance of common stock for services rendered	9	
Depreciation expense	75	150
Other	8	5
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(4)	10
Accounts payable, accrued expenses, and other liabilities	(1,214)	(1,597)
Net cash used in operating activities	(8,006)	(11,082)
Cash Flows from Investing Activities:		
Purchases of property and equipment	(1)	
Net cash used in investing activities	(1)	
Cash Flows from Financing Activities:		
Dividends paid	(509)	(263)
Proceeds from equity financings	14,721	
Proceeds from employee stock purchases	2	2
Payments on capital lease	(2)	(1)
Net cash provided by (used in) financing activities	14,212	(262)
Net increase (decrease) in cash and cash equivalents	6,205	(11,344)
Cash and cash equivalents, beginning of period	10,096	24,571
Cash and cash equivalents, end of period	$ 16,301	$ 13,227

The accompanying notes are an integral part of these financial statements.

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IDERA PHARMACEUTICALS, INC.

NOTES TO CONDENSED FINANCIAL STATEMENTS

June 30, 2013

(UNAUDITED)

(1) Organization

Idera Pharmaceuticals, Inc. (Idera or the Company) is a clinical stage biotechnology company engaged in the discovery and development of novel synthetic DNA- and RNA-based drug candidates that are designed to modulate immune responses mediated through Toll-like Receptors, or TLRs. The Company is focusing its development efforts on the treatment of autoimmune and inflammatory diseases. The Company is conducting a Phase 2 clinical trial of its lead drug candidate, IMO-8400, a TLR7, TLR8, and TLR9 antagonist, for the treatment of psoriasis. The Company has presented data from a Phase 2 clinical trial of IMO-3100, a TLR7 and TLR9 antagonist, in patients with moderate to severe plaque psoriasis. The Company believes that the results of the Phase 2 clinical trial of IMO-3100 provide proof of concept for its approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

TLRs are specific receptors present in immune system cells. Using a chemistry-based approach, the Company has created synthetic DNA- and RNA-based compounds that are targeted to TLR3, TLR7, TLR8, and TLR9. A TLR antagonist is a compound that blocks activation of an immune response through the targeted TLR. A TLR agonist is a compound that stimulates an immune response through the targeted TLR.

The Company believes that the modulation of immune responses through TLRs provides a rationale for the development of drug candidates to treat a broad range of diseases, including autoimmune and inflammatory diseases, cancer and respiratory diseases, and for use as vaccine adjuvants. The Company is a party to a collaboration alliance with Merck Sharp & Dohme Corp. (formerly Merck & Co., Inc.), or Merck & Co., for the use of agonists of TLR7, TLR8, and TLR9 as adjuvants in the development of vaccines for cancer, infectious diseases, and Alzheimer s disease.

The Company had cash and cash equivalents of approximately $16,301,000 at June 30, 2013. The Company believes that its existing cash and cash equivalents, will enable it to fund its operations at least through the fourth quarter of 2014. The Company believes that its available funds will be sufficient to enable it to conduct its ongoing Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. The Company will need to raise additional funds in order to conduct any other clinical development of IMO-8400 or to conduct any other development of its other drug candidates or technologies.

At June 30, 2013, the Company had an accumulated deficit of $402,056,000. The Company expects to incur substantial operating losses in future periods. The Company does not expect to generate product revenue or sales-based milestones or royalties until it successfully completes development and obtains marketing approval for drug candidates, either alone or in collaborations with third parties, which it expects will take a number of years. In order to commercialize its drug candidates, the Company needs to complete clinical development and to comply with comprehensive regulatory requirements.

The Company is subject to a number of risks and uncertainties similar to those of other companies of the same size within the biotechnology industry, such as uncertainty of clinical trial outcomes, uncertainty of additional funding, and history of operating losses.

(2) Unaudited Interim Financial Statements

The accompanying unaudited financial statements included herein have been prepared by the Company in accordance with United States Generally Accepted Accounting Principles (U.S. GAAP) for interim financial information and pursuant to the rules and regulations of the Securities and Exchange Commission (the SEC). Accordingly, certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. In the opinion of management, all adjustments, consisting of normal recurring adjustments, and disclosures considered necessary for a fair presentation of interim period results have been included. Interim results for the six months ended June 30, 2013 are not necessarily indicative of results that may be expected for the year ended December 31, 2013. For further information, refer to the financial statements and footnotes thereto included in the Company s Annual Report on Form 10-K for the fiscal year ended December 31, 2012, which was filed with the SEC on March 11, 2013.

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(3) April 2013 Pillar Agreements

In April 2013, the Company entered into two agreements (the Pillar Agreements) with Pillar Pharmaceuticals I, L.P. (Pillar I), Pillar Pharmaceuticals II, L.P. (Pillar II) and an entity affiliated with Pillar I and Pillar II (together with Pillar I and Pillar II, the Pillar Entities). The agreements, including the Company s obligations to issue the warrants under the Pillar Agreements, became effective upon the consummation of the follow-on underwritten public offering of the Company s securities on May 7, 2013. Mr. El Zein, a member of the Company s board of directors, is a director and controlling stockholder of Pillar Invest Corporation (Pillar Invest), which is the general partner of Pillar I and Pillar II, and is a limited partner of Pillar I and Pillar II. Mr. El Zein has voting and investment control over the securities beneficially owned by the Pillar Entities. In addition, Abdul-Wahab Umari, also a member of the Company s board of directors, is a managing partner of Pillar Invest.

Under the first agreement entered into with Pillar I and Pillar II (the April 22, 2013 Pillar Agreement), Pillar I, as the sole holder of the Company s Series D preferred stock, irrevocably waived and agreed to not exercise the rights, powers, preferences and other terms of the Series D preferred stock under Section 6 of the Certificate of Designations, Preferences and Rights of Series D Preferred Stock (the Series D Certificate of Designations), including without limitation the right to require the Company to purchase all or any portion of the shares of its Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of the Company or successor entity, the Series D Redemption Rights.

Under the April 22, 2013 Pillar Agreement, the Company agreed to seek approval and each of Pillar I and Pillar II agreed to vote in favor, of the following proposals at the Annual Meeting:

amendments to the Series D Certificate of Designations for the Series D preferred stock to:

- modify the dividend provisions of the Series D Certificate of Designations to change the date after which the Company may elect to pay dividends in shares of its common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of its common stock as a result of the application of the beneficial ownership and voting power limitations set forth the Series D Certificate of Designations; and

- modify the Series D Certificate of Designations to provide, in the event of a sale of the Company, for the distribution of any assets that remain available for distribution to its stockholders, after payment to the holders of its Series A convertible preferred stock and any other class of its capital stock that ranks senior to its Series D preferred stock, to the holders of our Series D preferred stock on a pro rata basis with the holders of its common stock, Series E preferred stock and such new series of non-voting preferred stock; and

amendments to the Certificate of Designations, Preferences and Rights of Series E Preferred Stock (the Series E Certificate of Designations) to:

- modify the dividend provisions of the Series E Certificate of Designations to allow for the payment of dividends in shares of its common stock commencing October 1, 2013; and

- allow for the payment of dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of its common stock as a result of the application of the beneficial ownership and voting power limitations set forth in the Series E Certificate of Designations.

Under the second agreement with the Pillar Entities (the April 30, 2013 Pillar Agreement), Pillar I irrevocably waived the right of the holders of the Series D preferred stock under Section 2.1 of the Series D Certificate of Designations to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company (a Liquidation), an amount per share of Series D preferred stock equal to the original

issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of the Company s common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation.

In addition, under the April 30, 2013 Pillar Agreement, Pillar II and the entity affiliated with Pillar I and Pillar II, as the holders of 100% of the Company s Series E preferred stock, irrevocably waived the right of the holders of the Series E preferred stock under Section 2.1.1 of the Series E Certificate of Designations to receive, in the event of a Liquidation, an amount per share of Series E

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preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series E preferred stock will receive under Section 2.1 of the Series E Certificate of Designations an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation.

In accordance with the terms of the Pillar Agreements, the Company sought approval from its stockholders of amendments to the Series D Certificate of Designations and Series E Certificate of Designations to effect the changes described above to the dividend and liquidation provisions of the Company s Series D preferred stock and Series E preferred stock, the redemption rights of the holders of its Series D preferred stock and the rights of the holders of its Series D preferred stock to distributions in the event of a sale of the Company. These matters were approved at the Annual Meeting that took place on July 26, 2013. Additional information on the amendments to the Series D Certificate of Designations and Series E Certificate of Designations that were approved by the Company s stockholders at the Annual Meeting is included in Note 14.

Under the April 22, 2013 Pillar Agreement, in consideration of the agreements of Pillar I and II under the April 22, 2013 Pillar Agreement and the delivery of the waiver by Pillar I, and for no additional cash consideration, the Company issued to Pillar I warrants, the Pillar I Warrants, to purchase up to 1,000,000 shares of the Company s common stock at an exercise price of $0.61 per share.

In addition, under the April 30, 2013 Pillar Agreement, in consideration of the agreements of the Pillar Entities under the April 30, 2013 Pillar Agreement and the delivery of the waivers by the Pillar Entities, and for no additional cash consideration, the Company issued to the Pillar Entities warrants (the Additional Pillar Warrants, and together with the Pillar I Warrants, the Pillar Warrants), to purchase up to an aggregate of 1,000,000 shares of the Company s common stock at an exercise price of $0.79 per share.

The Pillar Warrants became exercisable immediately upon issuance. The Pillar I Warrants will expire if not exercised on or prior to the fifth anniversary from the date of issuance and the Additional Pillar Warrants will expire if not exercised on or prior to June 1, 2014. The Pillar I Warrants provide that, after the second anniversary of the date of issuance, the Company may redeem such Pillar I Warrants for $0.01 per share of common stock issuable on exercise of such Pillar I Warrants following notice to the holder thereof if the closing price of its common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 per share.

In connection with the Pillar Agreements, the Company filed a registration statement that became effective on July 10, 2013, registering the resale of the shares of common stock issuable upon exercise of the Pillar Warrants.

The amendments to the Series D Certificate of Designations and Series E Certificate of Designations did not become effective until the third quarter of the Company s fiscal year that begins on July 1, 2013.

Since Pillar I irrevocably waived and agreed to not exercise the Series D Redemption Rights, the Company reassessed its accounting for the Series D preferred stock, which had been classified as temporary equity in the Company s condensed balance sheet because the Series D Redemption Rights represented a contingent put feature that was outside the Company s control. Since Pillar I irrevocably waived the Series D Redemption Rights, the contingent put feature ceased to exist at the time that Pillar I s waiver of the Series D Redemption Rights became effective. In addition, the Pillar Entities irrevocably waived the liquidation preferences of both the Series D preferred stock and the Series E preferred stock. The Company concluded that these irrevocable waivers of the Series D Redemption Rights and the Series D and Series E liquidation preferences, which became effective when the Company consummated a follow-on underwritten public offering of its common stock on May 7, 2013, represented changes to the fundamental terms of both the Series D preferred stock and the Series E preferred stock. As a result, the Company has accounted for these irrevocable waivers as an extinguishment of the Series D preferred stock and the Series E preferred stock and changed the classification of the Series D preferred stock from temporary equity to permanent equity. The Company compared (1) the sum of the fair values of the Series D preferred stock, the Series E preferred stock and the Pillar Warrants immediately after the effectiveness of the waivers to (2) the sum of the carrying values of the Series D preferred stock and Series E preferred stock immediately prior to the effectiveness of the waivers on May 7, 2013. The Company recorded the excess of the aggregate fair value of the preferred stock plus the Pillar Warrants immediately after the effectiveness of the waivers over the aggregate carrying value of the preferred stock immediately prior to May 7, 2013 as a loss on extinguishment and classified the fair values, immediately after the effectiveness of the waivers, of the Series D preferred stock, the Series E preferred stock and the Pillar Warrants within permanent equity on its condensed balance sheet.

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The effect of this extinguishment accounting on the Company s financial statements was to (1) remove the $5,921,000 carrying value of the Series D preferred stock immediately prior to the extinguishment from temporary equity; (2) record the $5,464,000 fair value of the Series D preferred stock immediately after the extinguishment in permanent equity (equity); (3) remove the $3,701,000 carrying value of the Series E preferred stock immediately prior to the extinguishment from equity; (4) record the $5,528,000 fair value of the Series E preferred stock immediately after the extinguishment in equity; (5) record the $380,000 fair value of the Pillar Warrants in equity; and (6) record a $1,750,000 extinguishment loss to net loss applicable to common stockholders. These accounting entries resulted in a $5,921,000 net increase in stockholders equity on its condensed balance sheet.

The Company determined the fair value of the Series D preferred stock and the Series E preferred stock as of May 7, 2013, the date the above described waivers became effective, based on the Option Pricing Method (OPM) which is a market based approach to imply the aggregate equity value of the Company by using the closing price of the Company s publicly traded common stock as of the May 7, 2013 valuation date. Under the OPM, the fair value of preferred stock and common stock are determined based on the net value of a series of call options representing the present value of the expected future returns to each shareholder class. Essentially, the rights of the common stock are equivalent to a call option on any value of the Company above any cumulative preferred stock liquidation preference. The analysis involves calculating the equity value breakeven points at which the various equity classes would participate, or convert in the case of preferred stock, or exercise in the case of stock options and warrants.

The Company used the Black-Scholes Model to compute the fair value of the Pillar Warrants as of the May 7, 2013 effective date on which the Pillar Warrants were issued based on the following assumptions and other inputs:

	Pillar I Warrants	Additional Pillar Warrants
Common stock price	$ 0.57	$ 0.57
Warrant exercise price	$ 0.61	$ 0.79
Term of warrant (years)	5.0	1.1
Expected volatility	62%	67%
Average risk free interest rate	0.8%	0.1%
Expected dividend yield		
Expected percentage of warrants to be exercised	100%	100%

The closing price of the Company s common stock is readily determinable since it is publicly traded. The warrant exercise prices and the warrant terms are readily determinable from the warrant agreements. The expected volatility is based on the actual stock-price volatility over a period equal to the greater of the term of the warrant or three years. The assumed risk-free interest rate is based on the U.S. Treasury security rate with a term equal to the term of the warrant. The assumed dividend yield of zero is based on the fact that the Company has never paid cash dividends to common stockholders and has no present intention to pay cash dividends to common stockholders. The Company assumed that future financings would dilute the warrant holder s ownership in the Company such that the 19.99% ownership limitation would not prevent the warrant holder from exercising all of the warrants during the term of the warrants.

(4) Financing

Follow-on Underwritten Public Offering

On May 7, 2013, the Company closed a follow-on underwritten public offering, in which it sold 17,500,000 shares of common stock, together with warrants to purchase up to 17,500,000 shares of common stock, and pre-funded warrants to purchase up to 15,816,327 shares of common stock, together with warrants to purchase up to 15,816,327 shares of common stock for aggregate gross proceeds of $16.5 million as follows:

	Combined Price (per common share)	Common Stock	Pre-funded Warrants	Matching Warrants
Common stock & matching warrants sold (shares)	$ 0.50	17,500,000		17,500,000
Pre-funded warrants & matching warrants sold (shares)	$ 0.49		15,816,327	15,816,327

Total (shares)	17,500,000	15,816,327	33,316,327
Warrant exercise price (per share)		$ 0.01	$ 0.47
Term of warrant (years)		7.0	5.0

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The estimated net proceeds to the Company from the offering, after deducting underwriters discounts and commissions and other offering costs and expenses and excluding the proceeds of the future exercise of the warrants, if any, were approximately $14.6 million.

The warrants and the pre-funded warrants each provide that, after the second anniversary of the date of issuance, the Company may redeem the warrants for $0.01 per share of common stock issuable on exercise of the warrants following 30 days prior written notice to the holder if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80.

(5) Cash and Cash Equivalents

The Company considers all highly liquid investments with maturities of 90 days or less when purchased to be cash equivalents. Cash and cash equivalents at June 30, 2013 and December 31, 2012 consisted of cash and money market funds.

(6) Fair Value of Assets and Liabilities

The Company measures fair value at the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date using assumptions that market participants would use in pricing the asset or liability (the inputs) into a three-tier fair value hierarchy. This fair value hierarchy gives the highest priority (Level 1) to quoted prices in active markets for identical assets or liabilities and the lowest priority (Level 3) to unobservable inputs in which little or no market data exists, requiring companies to develop their own assumptions. Observable inputs that do not meet the criteria of Level 1, and include quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets and liabilities in markets that are not active, are categorized as Level 2. Level 3 inputs are those that reflect the Company s estimates about the assumptions market participants would use in pricing the asset or liability, based on the best information available in the circumstances. Valuation techniques for assets and liabilities measured using Level 3 inputs may include unobservable inputs such as projections, estimates and management s interpretation of current market data. These unobservable Level 3 inputs are only utilized to the extent that observable inputs are not available or cost-effective to obtain.

The Company applies Accounting Standards Update No. 2011-04, Fair Value Measurement (Topic 820) (ASU No. 2011-04), which updated the previous fair value measurement guidance that had been included in the Accounting Standards Codification (ASC) to achieve common fair value measurement and disclosure requirements in U.S. GAAP and International Financial Reporting Standards.

The table below presents the assets and liabilities measured and recorded in the financial statements at fair value on a recurring basis at June 30, 2013 and December 31, 2012 categorized by the level of inputs used in the valuation of each asset and liability.

(In thousands)	Total	Quoted Prices in Active Markets for Identical Assets or Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
June 30, 2013				
Assets				
Money market fund	$ 16,231	$ 16,231	$	$
Total assets	$ 16,231	$ 16,231	$	$
Total liabilities	$	$	$	$
December 31, 2012				
Assets				
Money market fund	$ 9,990	$ 9,990	$	$

Total assets	$ 9,990	$ 9,990	$	$
Total liabilities	$	$	$	$

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The Level 1 assets consist of money market funds, which are actively traded daily. Although the Company did not have any Level 2 assets at June 30, 2013 or December 31, 2012, Level 2 assets typically consist of corporate bond investments whose fair value is generally determined from quoted market prices received from pricing services based upon quoted prices from active markets and/or other significant observable market transactions at fair value. Since these prices may not represent actual transactions of identical securities, they are classified as Level 2. Since any investments are classified as available-for-sale securities, any unrealized gains or losses are recorded in accumulated other comprehensive income or loss within stockholders equity on the balance sheet. The Company did not elect to measure any other financial assets or liabilities at fair value.

In connection with the sale of its Series D redeemable convertible preferred stock (Series D preferred stock) in November 2011, the Company issued warrants (the Series D warrants) which contained provisions for anti-dilution protection in the event that the Company issued other equity securities at a price below $1.46 per common share. Because of the potential adjustment to the warrant exercise price that could result from this anti-dilution protection, the warrants did not meet the criteria set forth in ASC 815-40, Derivatives and Hedging Contracts in Entity s own Stock to be considered indexed to the Company s own stock. Accordingly, the Company recorded the fair value of these warrants as a liability. The Company estimated the fair value of these warrants at the issuance date using the Black-Scholes Model. The Company characterized this warrant liability as a Level 3 liability because its fair value measurement was based, in part, on significant inputs not observed in the market and represented the Company s assumptions as to the expected warrant exercise price, the expected volatility of the Company s common stock, the expected dividend yield, the expected term of the warrant instrument and the expected percentage of warrants to be exercised.

The fair value of the warrants decreased from $2,499,000 at March 31, 2012 to $1,181,000 at June 30, 2012 primarily due to a decrease in the market price of the Company s common stock resulting in the recognition of $1,318,000 in non-operating income during the three months ended June 30, 2012. The fair value of the warrants increased from $1,178,000 at December 31, 2011 to $1,181,000 at June 30, 2012 primarily due to increases in the expected volatility and market price of the Company s common stock resulting in the recognition of $3,000 of non-operating expense during the six months ended June 30, 2012.

The sale of shares of Series E convertible preferred stock (Series E preferred stock) and related warrants to purchase shares of the Company s common stock (Series E warrants) in the Company s November 2012 Series E financing triggered an anti-dilution adjustment, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. Since the exercise price of the Series D warrants became fixed, the Series D warrants then met the exception under ASC 815-40 as they were now indexed to the company s own stock and met certain criteria for equity classification. Thus the Series D warrants were marked to fair value through earnings as of November 9, 2012 and then reclassified to stockholders equity at that time. Consequently, the Company did not record any non-operating income or expense related to the Series D warrants during the three and six months ended June 30, 2013.

(7) Property and Equipment

At June 30, 2013 and December 31, 2012, net property and equipment at cost consisted of the following:

(In thousands)	June 30, 2013	December 31, 2012
Leasehold improvements	$ 525	$ 525
Laboratory equipment and other	2,857	2,856
Total property and equipment, at cost	3,382	3,381
Less: accumulated depreciation	3,238	3,163
Property and equipment, net	$ 144	$ 218

Depreciation expense was approximately $33,000 and $67,000 in the three months ended June 30, 2013 and 2012, respectively, and approximately $75,000 and $150,000 in the six months ended June 30, 2013 and 2012, respectively.

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(8) Restricted Cash

As part of the Company s lease arrangement for its office and laboratory facility, the Company is required to restrict $311,000 of cash held in a certificate of deposit securing a line of credit for the lessor. During the second quarter of 2013, the $311,000 was transferred from non-current assets to other current assets since the Company s lease term expires on May 31, 2014.

(9) Collaboration and License Agreements

(a) Collaboration and License Agreement with Merck & Co.

In December 2006, the Company entered into an exclusive, worldwide license and research collaboration agreement with Merck & Co. to research, develop, and commercialize vaccine products containing the Company s TLR7, TLR8, and TLR9 agonists in the fields of cancer, infectious diseases, and Alzheimer s disease. Under the terms of the agreement, the Company granted Merck & Co. exclusive rights to a number of the Company s TLR7, TLR8, and TLR9 agonists for use in combination with Merck & Co. s therapeutic and prophylactic vaccines under development in the fields of cancer, infectious diseases, and Alzheimer s disease. There is no limit under the agreement to the number of vaccines to which Merck & Co. can apply the Company s agonists within these fields. The Company also agreed with Merck & Co. to engage in a two-year research collaboration to generate novel agonists targeting TLR7 and TLR8 incorporating both Merck & Co. and the Company s chemistry for use in vaccines in the defined fields. Under the terms of the agreement, Merck & Co. extended the research collaboration for two additional years to December 2010. Under the terms of the agreement:

- Merck & Co. paid the Company a $20.0 million upfront license fee;
- Merck & Co. purchased $10.0 million of the Company s common stock at $5.50 per share;
- Merck & Co. agreed to fund the research and development collaboration through its term;
- Merck & Co. agreed to pay the Company milestone payments as follows:
  - up to $165.0 million if vaccines containing the Company s TLR9 agonist compounds are successfully developed and marketed in each of the oncology, infectious disease, and Alzheimer s disease fields;
  - up to $260.0 million if vaccines containing the Company s TLR9 agonist compounds are successfully developed and marketed for follow-on indications in the oncology field and if vaccines containing the Company s TLR7 or TLR8 agonists are successfully developed and marketed in each of the oncology, infectious disease, and Alzheimer s disease fields; and
  - if Merck & Co. develops and commercializes additional vaccines using the Company s agonists, the Company would be entitled to receive additional milestone payments; and
- Merck & Co. agreed to pay the Company mid to upper single-digit royalties on net product sales of vaccines using the Company s TLR agonist technology that are developed and marketed, with the royalty rates being dependent on disease indication and the TLR agonist employed.

The Company recognized the $20.0 million upfront payment as revenue over four years, including the initial two-year research term and the two-year extension period that ended in December 2010, which was the Company s period of continuing involvement under the research collaboration. The Company has recognized a total of $1.0 million of milestone revenue under the license and collaboration agreement, which related to the achievement of a preclinical milestone with one of its TLR9 agonists used as an adjuvant in cancer vaccines.

In December 2006, in connection with the execution of the license and collaboration agreement, the Company entered into a stock purchase agreement with Merck & Co. Pursuant to such stock purchase agreement, the Company issued and sold to Merck & Co. 1,818,182 shares of the Company s common stock for a price of $5.50 per share resulting in aggregate gross proceeds of $10.0 million.

(b) Collaboration and License Agreement with Merck KGaA

In December 2007, the Company entered into an exclusive, worldwide license agreement with Merck KGaA, Darmstadt, Germany (Merck KGaA) to research, develop and commercialize products containing its TLR9 agonists, including IMO-2055, for the treatment of cancer, excluding cancer vaccines. Under the terms of the agreement: Merck KGaA paid the Company in February 2008 a $40.0 million upfront license fee in Euros of which $39.7 million was received due to foreign currency exchange rates in effect at that time, and Merck KGaA agreed to reimburse costs for the Company s IMO-2055 clinical trials for the period in which the Company continued to conduct the trials on behalf of Merck KGaA. In February 2009, the agreement was amended so that the Company could initiate and conduct on behalf of Merck KGaA additional clinical trials of IMO-2055, and Merck KGaA agreed to reimburse the Company for costs associated with any additional trials that the Company initiated and conducted. As of March 2010, Merck KGaA assumed sponsorship of all ongoing clinical trials of IMO-2055 for the treatment of cancer, and responsibility for all further clinical development of IMO-2055 in the treatment of cancer, excluding vaccines.

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The Company recognized the $40.0 million upfront payment as revenue over the twenty-eight month term that ended in June 2010, which was the Company s period of continuing involvement under the research collaboration. The Company has recognized a total of $12.1 million of milestone revenue related to the initiation of clinical trials of IMO-2055.

In November 2011, the Company and Merck KGaA entered into a termination agreement terminating the license agreement. Under the termination agreement:

- the license agreement was terminated and the Company regained all rights for developing TLR9 agonists for the treatment of cancer, including all rights to IMO-2055 and any follow-on TLR9 agonists;

- Merck KGaA agreed to continue to conduct the Phase 2 trial of IMO-2055 in combination with cetuximab that was then ongoing and other specified related activities;

- Merck KGaA agreed to complete and analyze all clinical trials that Merck KGaA had initiated or for which Merck KGaA had assumed sponsorship and to finalize clinical study reports;

- the Company gained rights to the data from the Phase 2 trial of IMO-2055 in combination with cetuximab, as well as to the data from the Phase 1 trials conducted in other cancer indications;

- the Company agreed to reimburse Merck KGaA a maximum of 1.8 million ($2.4 million using a June 30, 2013 exchange rate) of Merck KGaA s costs for the third-party contract research organization that is coordinating the Phase 2 trial of IMO-2055 in combination with cetuximab, payable in eleven installments comprised of ten monthly installments to be invoiced by Merck KGaA to the Company commencing on March 1, 2012 and a final payment payable by the Company to Merck KGaA upon Merck KGaA s completion of certain specified activities. As of June 30, 2013, the Company has paid 0.9 of the 1.8 million ($1.1 million (using exchange rates in effect at the time that the payments were made) of the $2.4 million);

- the Company agreed to pay to Merck KGaA one-time 1.0 million ($1.3 million using a June 30, 2013 exchange rate) milestone payments upon occurrence of each of the following milestones: (i) partnering of IMO-2055 between the Company and any third party, (ii) initiation of any Phase 2 or Phase 3 clinical trial for IMO-2055 and (iii) regulatory submission of IMO-2055 in any country; and

- Merck KGaA granted the Company an option to obtain a license to certain manufacturing and formulation know-how owned or developed by Merck KGaA under the License Agreement and to Merck KGaA s IMOxine trademark. The Company s option to license the IMOxine trademark has expired. If the Company elects to exercise its option with respect to the manufacturing and formulation know-how, the Company has agreed to pay a low single digit royalty on net sales of IMO-2055, with respect to such license.

The Company recorded the 1.8 million ($2.4 million using a November 30, 2011 exchange rate) that it has agreed to reimburse Merck KGaA in installment payments as research and development expense for the fourth quarter of 2011 as such amount represented the cost of regaining the Company s rights to IMO-2055 and follow-on compounds for use in the treatment of cancer, excluding cancer vaccines. As of June 30, 2013, 0.9 million ($1.2 million using a June 30, 2013 exchange rate) of these installments remained payable under the termination agreement and is recorded under accrued expenses in the condensed balance sheet.

(10) Stock-Based Compensation

The Company recognizes all share-based payments to employees and directors as expense in the statements of operations and comprehensive loss based on their fair values. The Company records compensation expense over an award s requisite service period, or vesting period, based on

the award s fair value at the date of grant. The Company s policy is to charge the fair value of stock options as an expense, adjusted for forfeitures, on a straight-line basis over the vesting period, which is generally four years for employees and three years for directors. Prior to December 2011, the vesting of all of the Company s stock options was based on the passage of time and the employees continued service. In December 2011 and January 2012, the Company granted performance-based stock options to purchase 697,500 shares of common stock to employees. As of the grant date of such options, options to purchase 174,375 shares were to vest immediately upon the achievement of various performance conditions and options to purchase 523,125 shares were to vest over a three year service period upon the achievement of the same performance conditions. During 2012, three of the specified performance conditions were achieved. As a result, options to purchase 80,213 shares vested immediately, and options to purchase 240,640 shares began vesting over a three-year period in accordance with the terms of the performance-based options. As of June 30, 2013, the remaining performance-based options were forfeited as the remaining performance conditions had not been met by their deadlines. The Company recognizes expense over the implicit and explicit service periods for awards with performance conditions when the Company determines the achievement of the performance conditions to be probable.

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The Company recorded charges of $265,000 and $535,000 in its statements of operations and comprehensive loss for the three months ended June 30, 2013 and 2012, respectively, and $518,000 and $1,123,000 in its statements of operations and comprehensive loss for the six months ended June 30, 2013 and 2012, respectively, for stock-based compensation expense attributable to share-based payments made to employees and directors. The fair value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model. The following assumptions apply to the options to purchase 1,720,083 and 157,500 shares of common stock granted to employees and directors during the six months ended June 30, 2013 and 2012, respectively:

	Six Months Ended June 30,	
	2013	2012
Average risk free interest rate	0.9%	0.9%
Expected dividend yield		
Expected lives (years)	5.0	5.6
Expected volatility	61.0%	63.0%
Weighted average grant date fair value of options granted during the period (per share)	$ 0.36	$ 0.54
Weighted average exercise price of options granted during the period (per share)	$ 0.69	$ 0.97

The expected lives and the expected volatility of the options are based on historical experience. All options granted during the six months ended June 30, 2013 and 2012 were granted at exercise prices equal to the fair market value of the common stock on the dates of grant.

(11) Net Loss per Common Share Applicable to Common Stockholders

For the three and six months ended June 30, 2013 and 2012, basic and diluted net loss per common share applicable to common stockholders is computed using the weighted average number of shares of common stock outstanding during the period. Diluted net loss per common share applicable to common stockholders is the same as basic net loss per common share applicable to common stockholders as the effects of the Company s potential common stock equivalents are antidilutive. Total antidilutive securities were 85,807,964 and 16,094,472 for the six months ended June 30, 2013 and 2012, respectively, and consist of stock options, preferred stock and warrants.

For the three and six months ended June 30, 2013, net loss per common share applicable to common stockholders reflects $1,750,000 related to the loss on extinguishment of the Series D preferred stock and the Series E preferred stock that the Company issued in November 2011 and November 2012, respectively, that has been charged to net loss applicable to common stockholders as a preferred stock dividend, and $280,000 and $559,000, respectively, in dividends payable on shares of Series D preferred stock and Series E preferred stock. For the three and six months ended June 30, 2012, net loss per common share applicable to common stockholders reflects $160,000 and $320,000, respectively, in dividends payable on shares of Series D preferred stock.

(12) Employee Stock Purchases

During the six months ended June 30, 2013 and 2012, the Company issued 3,574 shares and 1,627 shares, respectively, of common stock in connection with employee stock purchases under the Company s 1995 Employee Stock Purchase Plan, which resulted in total proceeds to the Company of $2,000 during each six-month period.

(13) Related Party Transactions

The Company paid a director consulting fees of approximately $1,000 in the six months ended June 30, 2012 for services performed in 2011. The Company did not pay consulting fees to directors during the three and six months ended June 30, 2013 or the three months ended June 30, 2012.

(14) Subsequent Event

2013 Annual Meeting of Stockholders

At the Annual Meeting that took place on July 26, 2013, the Company s stockholders approved the following:

an amendment to the Company s restated certificate of incorporation to increase the number of authorized shares of common stock from 140,000,000 to 280,000,000;

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a non-binding, advisory proposal on the compensation of the Company s named executive officers;

the Company s 2013 Stock Incentive Plan;

the ratification of the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2013;

amendments (collectively the Series D Proposals) to the Company s restated certificate of incorporation amending the Series D Certificate of Designations to:

provide that (a) the beneficial ownership limitation that prohibits the Company from paying a holder of the Company s Series D preferred stock dividends payable in shares of the Company s common stock to the extent the issuance of such shares would result in the holder of the Series D preferred stock and its affiliates beneficially owning more than 19.99% of the outstanding common stock (including shares of common stock issuable upon conversion of the Series D preferred stock) would be increased from 19.99% to 35% in the event that the Nasdaq Proposal (as defined below) was approved by the Company s stockholders and (b) the beneficial ownership limitation that prohibits a holder of Series D preferred stock from converting its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of the outstanding common stock (including shares of common stock issuable upon conversion of the Series D preferred stock) would be increased from 19.99% to 35% in the event that the Nasdaq Proposal was approved by the Company s stockholders;

eliminate the requirement that the Company pay corresponding dividends to the holders of Series D preferred stock upon payment of dividends to holders of the Company s Series E preferred stock;

change the date after which the Company may elect to pay dividends in shares of common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of common stock as a result of the application of the beneficial ownership limitation set forth in the Series D Certificate of Designations;

eliminate the right of holders of Series D preferred stock to receive, in the event of a liquidation, dissolution or winding up of the Company (a Liquidation), an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation; and

provide, in the event of a sale of the Company, for the distribution of any assets that remain available for distribution to the Company s stockholders, after payment to the holders of the Company s Series A preferred stock and any other class of the Company s capital stock that ranks senior to the Series D preferred stock, to the holders of Series D preferred stock on a pro rata basis with the holders of common stock, Series E preferred stock and such new series of non-voting preferred stock that was *pari passu* with the Series D preferred stock; and

amendments (collectively the Series E Proposals) to the Company s restated certificate of incorporation amending the Series E Certificate of Designations to:

permit the Company to elect to pay dividends to the holders of Series E preferred stock in shares of common stock in lieu of cash beginning October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of common stock as a result of the application of the beneficial ownership limitation set forth in the Series E Certificate of Designations; and

eliminate the right of the holders of Series E preferred stock to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would

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have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation.

The proposals submitted to the Company s stockholders at the Annual Meeting to (i) amend the Company s restated certificate of incorporation and bylaws to (a) declassify the Company s board of directors, (b) provide that the Company s stockholders may remove directors with or without cause following declassification of the Company s board of directors and (c) eliminate the supermajority voting requirement for amending or repealing Article ELEVENTH of the Company s restated certificate of incorporation (collectively, the Declassification Proposal) and (ii) approve the issuance and sale by the Company to certain affiliates of Pillar Invest Corporation (including prior issuances and sales of the Company s securities to such affiliates in November 2011 and November 2012) of a number of shares of the Company s common stock (including securities convertible into or exercisable for shares of the Company s common stock) that is greater than 19.99% of the total number of issued and outstanding shares of common stock and of the outstanding voting power of the Company s securities after such issuance and sale in accordance with Nasdaq Listing Rule 5635(b) (the Nasdaq Proposal), were not approved by the Company s stockholders at the Annual Meeting.

As a result of the approval by the Company s stockholders of the Series D Proposals and Series E Proposals, certificates of amendment to the Series D Certificate of Designations and Series E Certificate of Designations were filed by the Company with the Delaware Secretary of State on July 26, 2013. Because the Nasdaq Proposal was not approved by the Company s stockholders, the beneficial ownership limitation applicable to the Series D preferred stock and Series E preferred stock set forth in the Series D Certificate of Designations and Series E Certificate of Designations, each as amended, will remain at 19.99% and the threshold above which the holders of the Series D preferred stock and Series E preferred stock must vote any shares held by them in the same manner and percentage as the holders of the Company s common stock vote on such matter, will remain at 19.99 %.

ITEM 2. ***MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.***

GENERAL

We are a clinical stage biotechnology company engaged in the discovery and development of novel synthetic DNA- and RNA-based drug candidates that are designed to modulate immune responses mediated through Toll-like Receptors, or TLRs. We are focusing our development efforts on the treatment of autoimmune and inflammatory diseases. We are conducting a Phase 2 clinical trial of our lead drug candidate, IMO-8400, a TLR7, TLR8, and TLR9 antagonist, for the treatment of psoriasis. We have presented data from a Phase 2 clinical trial of IMO-3100, a TLR7 and TLR9 antagonist, in patients with moderate to severe plaque psoriasis. We believe that the results of the Phase 2 clinical trial of IMO-3100 provide proof of concept for our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

TLRs are specific receptors present in immune system cells. Using a chemistry-based approach, we have created synthetic DNA- and RNA-based compounds that are targeted to TLR3, TLR7, TLR8, and TLR9. A TLR antagonist is a compound that blocks activation of an immune response through the targeted TLR. A TLR agonist is a compound that stimulates an immune response through the targeted TLR.

We believe that the modulation of immune responses through TLRs provides a rationale for the development of drug candidates to treat a broad range of diseases, including autoimmune and inflammatory diseases, cancer and respiratory diseases, and for use as vaccine adjuvants. We are a party to a collaboration alliance with Merck Sharp & Dohme Corp. (formerly Merck & Co., Inc.), or Merck & Co., for the use of agonists of TLR7, TLR8, and TLR9 as adjuvants in the development of vaccines for cancer, infectious diseases, and Alzheimer s disease.

We had cash and cash equivalents of approximately $16,301,000 at June 30, 2013. We believe that our existing cash and cash equivalents will enable us to fund our operations at least through the fourth quarter of 2014. We believe that our available funds will be sufficient to enable us to conduct our ongoing Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. We will need to raise additional funds in order to conduct any other clinical development of IMO-8400 or to conduct any other development of our other drug candidates or technologies.

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Autoimmune and Inflammatory Disease Program. We have presented data from a randomized double-blinded, placebo-controlled Phase 2 clinical trial of IMO-3100 that we conducted in 44 adult patients with moderate to severe plaque psoriasis. In this Phase 2 trial, IMO-3100 showed clinical activity in patients who received subcutaneous doses of IMO-3100 once weekly for four weeks. We believe that the results of this trial provide proof of concept for our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

We presented data in the second quarter of 2013 from a Phase 1 clinical trial of IMO-8400 in healthy subjects. The objectives of the trial, which was conducted at a single U.S. site, were to evaluate the safety, pharmacokinetics, and pharmacodynamics of IMO-8400 administered by subcutaneous injection. The first portion of the trial involved escalating single doses of IMO-8400 and the second portion of the trial involved four weekly doses of IMO-8400. In this trial, IMO-8400 was well-tolerated at all dose levels, was cleared rapidly from the plasma with no accumulation, and showed target engagement of TLR7, TLR8, and TLR9 in subjects treated with IMO-8400 compared to placebo.

Based on the clinical activity observed in our four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis and the data from our Phase 1 clinical trial of IMO-8400, we determined that the next step in our development program was to conduct a Phase 2 clinical trial in patients with moderate to severe plaque psoriasis with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR8 by IMO-8400, we determined to focus our resources on the development of IMO-8400 and to conduct this trial in patients with psoriasis with IMO-8400. We initiated this Phase 2 clinical trial of IMO-8400, with a 12-week treatment period and a six-week follow-up period, during the second quarter of 2013. We expect to have top-line data during the first quarter of 2014.

We are also planning to initiate additional clinical trials of IMO-8400 in additional disease indications. However, our plans to conduct these trials are subject to our ability to raise additional resources to fund the conduct of these trials. We expect to seek such additional funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources.

Vaccine Adjuvant Collaboration. In January 2012, we announced that Merck & Co. had selected several of our TLR7, TLR8 or TLR 9 agonists for evaluation and use as vaccine adjuvant candidates in the fields of cancer, infectious diseases, and Alzheimer s disease.

Additional Programs. In addition to our TLR program in autoimmune and inflammatory diseases, and our collaboration with Merck & Co. for the use of TLR7, TLR8, and TLR9 agonists as vaccine adjuvants, we have identified TLR drug candidates for applications in the treatment of cancer, hematological malignancies and respiratory diseases, and created TLR3 agonists for use as vaccine adjuvants. We have also created gene silencing oligonucleotides, or GSOs, which are designed to inhibit the production of disease-associated proteins by targeting RNA. We believe our GSO technology provides us with a platform from which drug candidates for multiple disease indications can be developed. We are seeking to enter into collaborations with third parties to advance these drug candidates and technology platform. Except in connection with collaborations, we do not plan to expend any additional resources on these programs.

At June 30, 2013, we had an accumulated deficit of $402,056,000. We expect to incur substantial operating losses in future periods. We do not expect to generate product revenue, sales-based milestones or royalties until we successfully complete development and obtain marketing approval for drug candidates, either alone or in collaborations with third parties, which we expect will take a number of years. In order to commercialize our drug candidates, we need to complete clinical development and to comply with comprehensive regulatory requirements.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

This management s discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these

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financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates and judgments, including those related to revenue recognition, stock-based compensation and our convertible preferred stock and related common stock warrants. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We regard an accounting estimate or assumption underlying our financial statements as a critical accounting estimate where:

- the nature of the estimate or assumption is material due to the level of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and

- the impact of the estimates and assumptions on financial condition or operating performance is material.

Our significant accounting policies are described in Note 2 of the notes to our financial statements in our Annual Report on Form 10-K for the year ended December 31, 2012. Not all of these significant policies, however, fit the definition of critical accounting policies and estimates. We believe that our accounting policies relating to revenue recognition, stock-based compensation and convertible preferred stock and related common stock warrants, as described under the caption Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Estimates in our Annual Report on Form 10-K for the year ended December 31, 2012, fit the description of critical accounting estimates and judgments. There were no changes in these policies during the six months ended June 30, 2013, except that irrevocable waivers by Pillar Pharmaceuticals I, L.P. (Pillar I), Pillar Pharmaceuticals II, L.P. (Pillar II) and an entity affiliated with Pillar I and Pillar II (together with Pillar I and Pillar II, the Pillar Entities) of the Series D preferred stock redemption rights and the Series D preferred stock and Series E preferred stock liquidation preferences, which became effective when we completed a qualified financing on May 7, 2013, required us to reassess our accounting for our Series D preferred stock and our Series E preferred stock.

Since Pillar I irrevocably waived and agreed to not exercise the Series D Redemption Rights, we reassessed our accounting for the Series D preferred stock, which had been classified as temporary equity in our condensed balance sheet because the Series D Redemption Rights represented a contingent put feature that was outside our control. Since Pillar I irrevocably waived its Series D Redemption Rights, the contingent put feature ceased to exist at the time that Pillar I s waiver of the Series D Redemption Rights became effective. In addition, the Pillar Entities irrevocably waived the liquidation preferences of both the Series D preferred stock and the Series E preferred stock. We concluded that these irrevocable waivers of the Series D Redemption Rights and the Series D and Series E liquidation preferences, which became effective when we consummated a follow-on underwritten public offering of our common stock on May 7, 2013, represented changes to the fundamental terms of both the Series D preferred stock and the Series E preferred stock. As a result, we accounted for these irrevocable waivers as an extinguishment of the Series D preferred stock and the Series E preferred stock and changed the classification of the Series D preferred stock from temporary equity to permanent equity. We compared (1) the sum of the fair values of the Series D preferred stock, the Series E preferred stock and the Pillar Warrants immediately after the effectiveness of the waivers to (2) the sum of the carrying values of the Series D preferred stock and Series E preferred stock immediately prior to the effectiveness of the waivers on May 7, 2013. We recorded the excess of the aggregate fair value of the preferred stock plus the Pillar Warrants immediately after the effectiveness of the waivers over the aggregate carrying value of the preferred stock immediately prior to May 7, 2013 as a loss on extinguishment and classified the fair values, immediately after the effectiveness of the waivers, of the Series D preferred stock, the Series E preferred stock and the Pillar Warrants within permanent equity on our condensed balance sheet.

The effect of this extinguishment accounting on our financial statements was to (1) remove the $5,921,000 carrying value of the Series D preferred stock immediately prior to the extinguishment from temporary equity; (2) record the $5,464,000 fair value of the Series D preferred stock immediately after the extinguishment in permanent equity (equity); (3) remove the $3,701,000 carrying value of the Series E preferred stock immediately prior to the extinguishment from equity; (4) record the $5,528,000 fair value of the Series E preferred stock immediately after the extinguishment in equity; (5) record the $380,000 fair value of the Pillar Warrants in equity; and (6) record a $1,750,000 extinguishment loss to net loss applicable to common stockholders. These accounting entries resulted in a $5,921,000 net increase in stockholders equity on our condensed balance sheet.

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RESULTS OF OPERATIONS

Three and Six Months Ended June 30, 2013

Alliance Revenue

Alliance revenue consisted primarily of reimbursement by licensees of costs associated with patent maintenance, amounting to $29,000 and $28,000 in the three months ended June 30, 2013 and 2012, respectively, and $36,000 and $37,000 in the six months ended June 30, 2013 and 2012.

Research and Development Expenses

Research and development expenses decreased by $1,507,000, or 43%, from $3,504,000 for the three months ended June 30, 2012, to $1,997,000 for the three months ended June 30, 2013. Research and development expenses decreased by $2,992,000 or 41% from $7,317,000 for the six months ended June 30, 2012 to $4,325,000 for the six months ended June 30, 2013. In the following table, research and development expense is set forth in the following four categories which are discussed beneath the table:

	Three Months Ended June 30, (in thousands)		Percentage Increase	Six Months Ended June 30, (in thousands)		Percentage Increase
	2013	2012	(Decrease)	2013	2012	(Decrease)
IMO-8400 external development expense	$ 596	$	%	$ 1,196	$	%
IMO-3100 external development expense	17	809	(98)%	291	1,048	(72)%
Other drug development expense	600	1,315	(54)%	1,235	3,339	(63)%
Basic discovery expense	784	1,380	(43)%	1,603	2,930	(45)%
	$ 1,997	$ 3,504	(43)%	$ 4,325	$ 7,317	(41)%

IMO-8400 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-8400 since October 2012, when we commenced clinical development of IMO-8400. These external expenses include payments to independent contractors and vendors for drug development activities conducted after the initiation of IMO-8400 clinical development but exclude internal costs such as payroll and overhead expenses. Since October 2012, we have incurred approximately $1,685,000 in external development expenses through June 30, 2013, including costs associated with our Phase 1 clinical trial in healthy subjects, preparation for and conduct of our ongoing Phase 2 clinical trial in patients with psoriasis, and additional nonclinical studies. We classified the IMO-8400 external development expenses incurred prior to October 2012 as Other Drug Development Expenses. We have conducted a Phase 1 clinical trial of IMO-8400 in healthy subjects and are currently conducting a Phase 2 clinical trial of IMO-8400 in patients with psoriasis. The primary objectives of this Phase 1 clinical trial were to evaluate the safety, pharmacokinetics, and pharmacodynamics of IMO-8400. This trial was conducted at a single U.S. site. The first portion of the trial involved escalating single doses of IMO-8400 administered by subcutaneous injection and the second portion of the trial involved IMO-8400 administered once per week for four weeks. We presented data from this trial at the Federation of Clinical Immunology Societies meeting in June, 2013.

In the second quarter of 2013, we initiated a Phase 2 clinical trial of IMO-8400 in patients with psoriasis to, among other things, evaluate the clinical activity of IMO-8400 with a treatment period of up to 12 weeks. Under the protocol for this trial, 32 adult patients with moderate to severe plaque psoriasis, as indicated by a score of 12 or greater on the Psoriasis Area Severity Index, or PASI, will be randomized 1:1:1:1 into one of four cohorts and receive placebo or weekly subcutaneous doses of IMO-8400 at a dose level of 0.075, 0.15, or 0.3 mg/kg/week for 12 weeks, with a six-week follow-up period. Safety and improvements in PASI score will be monitored throughout the trial. The trial is being conducted in the Netherlands. We expect to have top-line data during the first quarter of 2014.

We are also planning to initiate additional clinical trials of IMO-8400 in additional disease indications. However, our plans to conduct these trials are subject to our ability to raise additional resources to fund the conduct of these trials. We expect to seek such additional funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources.

IMO-3100 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-3100 since November 2009, when we commenced clinical development of IMO-3100. These external expenses include payments to independent

contractors and vendors for drug development activities conducted after the initiation of IMO-3100 clinical development but exclude internal costs such as payroll and overhead expenses. We incurred approximately $10,235,000 in external development expenses from November 2009 through June 30, 2013, including costs associated with our clinical trials, manufacturing and process development activities related to the production of IMO-3100, and additional nonclinical toxicology studies.

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IMO-3100 expenses during both the three and six months ended June 30, 2013 and the three and six months ended June 30, 2012 related primarily to our Phase 2 clinical trial to evaluate IMO-3100 in patients with psoriasis over a four-week period. The costs related to our Phase 2 clinical trial were lower in the three and six months ended June 30, 2013, as compared to the three and six months ended June 30, 2012. In the three and six months ended June 30, 2013, IMO-3100 expenses consisted of payments to the central laboratory for immunological analysis of RNA isolated from clinical samples, data analysis and trial close-out activities. In the three and six months ended June 30, 2012, our costs were related to our preparation for and conduct of our Phase 2 clinical trial of IMO-3100 that we initiated in April 2012.

The Phase 2 clinical trial of IMO-3100 that we conducted was a randomized, double-blind, placebo-controlled Phase 2 clinical trial of IMO-3100 in adult patients with moderate-to-severe plaque psoriasis. In the trial, 44 patients at 11 centers in the United States were randomized on a 1:1:1 basis to receive IMO-3100 monotherapy at a dose level of either 0.16 or 0.32 mg/kg or placebo by subcutaneous injection once weekly for four weeks with a four-week follow-up period. Patients were treated on Days 1, 8, 15, and 22, and were monitored during the treatment period and the follow-up period through approximately Day 57. Assessments of safety were performed throughout the trial. Multiple parameters were monitored to assess the clinical activity of IMO-3100, including PASI scores. In addition to the clinical assessments, biopsies were evaluated for treatment-related changes in epidermal thickness and immune cell infiltrates. PASI scores were monitored during the treatment period on Days 1, 15, and 29, and during the follow-up period on Days 36 and 57. Skin biopsies were collected prior to treatment on Day 1 and on Day 29.

The objectives of the Phase 2 trial of IMO-3100 were to evaluate the safety and tolerability and to evaluate the clinical activity of TLR antagonism in patients with psoriasis after four weeks of treatment. The following data from this trial were presented at the International Investigative Dermatology meeting in Edinburgh, Scotland in May 2013:

Safety:

- Treatment with IMO-3100 was well tolerated at both dose levels studied
- There were no treatment-related discontinuations or changes in laboratory parameters

Clinical Activity:

- On day 57, 48% of patients treated with either dose of IMO-3100 (12 of 25) demonstrated statistically significant improvements of 35% to 90% from baseline PASI scores compared with 0 of 12 in the placebo cohort ($p<0.005$)
- Rapid improvement in PASI scores was observed as early as Day 15 in IMO-3100 treated patients compared to placebo-treated patients; improvement in PASI was sustained through five weeks after the last dose
- The pre-specified clinical endpoint of reduction in PASI score at day 29 was achieved with statistical significance in the 0.16 mg/kg cohort ($p<0.02$ compared to placebo) but not in the 0.32 mg/kg cohort
- PASI 50 was achieved in 7 of 25 patients treated with IMO-3100 (3 of 12 at 0.16 mg/kg and 4 of 13 at 0.32 mg/kg), compared to 0 of 12 placebo treated patients ($p<0.05$); PASI 75 was achieved in 1 patient in each IMO-3100 cohort during the trial period
- The pre-specified clinical endpoint of improvement in induration, a measure of plaque thickness, at day 29, was achieved with statistical significance in the 0.16 mg/kg cohort ($p<0.02$) compared to placebo-treated patients

Mechanism of Action Based on Analysis of Skin Biopsies:

Median change in epidermal thickness (the histologically defined primary endpoint of the trial) was -6.4% in IMO-3100 treated patients compared to +7.7% in placebo treated patients, representing a favorable, but not statistically significant, trend. Because the histology endpoint was not statistically significant, the primary endpoint of this trial was not achieved. A known limitation of skin biopsies after four weeks of treatment is that psoriatic plaques do not resolve in a uniform fashion, and therefore, biopsies may not provide a representative sampling of lesions.

Representative patients treated with IMO-3100 showed K16 staining (marker of keratinocyte proliferation) reverting toward normal and decreasing infiltrates of CD3+ lymphocytes and CD11c+ cells.

DNA microarray analysis of biopsies from the IMO-3100 treated patients compared to placebo treated patients (n=6 each) showed significant improvement ($p<10^{-6}$) in psoriasis disease-associated genes and of genes unique to the IL-17 pathway, which is central to the pathogenesis of psoriasis.

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We believe that the results of this trial provide clinical proof of concept of our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

Based on the clinical activity observed in this four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis, we determined that the next step in our development program was to conduct a Phase 2 clinical trial in patients with moderate to severe plaque psoriasis with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR-8 by IMO-8400, we determined to focus our resources on the development of IMO-8400 and to conduct the 12-week clinical trial in patients with psoriasis with IMO-8400.

Other Drug Development Expenses. These expenses include external expenses associated with preclinical development of identified compounds in anticipation of advancing these compounds into clinical development. In addition, these expenses include internal costs, such as payroll and overhead expenses, associated with preclinical development and products in clinical development. The external expenses associated with preclinical compounds include payments to contract vendors for manufacturing and the related stability studies, preclinical studies, including animal toxicology and pharmacology studies, and professional fees. Internal expenses associated with products in clinical development include costs associated with our Autoimmune Disease Scientific Advisory Board.

The decrease in other drug development expenses in the three and six months ended June 30, 2013, as compared to the three and six months ended June 30, 2012, was primarily due to costs incurred during the three and six months ended June 30, 2012 for nonclinical safety studies and manufacture of drug supply to support the IND for IMO-8400 that we submitted during the third quarter of 2012. Costs associated with the clinical development of IMO-8400 are included in IMO-8400 External Development Expenses in the three and six months ended June 30, 2013.

Basic Discovery Expenses. These expenses include our internal and external expenses relating to our discovery efforts with respect to our TLR-targeted programs, including agonists and antagonists of TLR3, TLR7, TLR8, and TLR9, TLR antisense, and gene silencing oligonucleotides. These expenses reflect payments for laboratory supplies, external research, and professional fees, as well as payroll and overhead expenses. The decrease in basic discovery expenses in the three and six months ended June 30, 2013, as compared to the three and six months ended June 30, 2012, was primarily due to decreases in the cost of laboratory supplies and employee compensation reflecting reduced activity and reduced headcount resulting from our September 2011 re-assessment and prioritization of our drug development programs.

We do not know if we will be successful in developing any drug candidate from our research and development programs. At this time, and without knowing the outcome of our ongoing Phase 2 clinical trial of IMO-8400, and without an established plan for future clinical tests of drug candidates, we cannot reasonably estimate or know the nature, timing, and costs of the efforts that will be necessary to complete the remainder of the development of, or the period, if any, in which material net cash inflows may commence from, any drug candidate from our research and development programs. Moreover, the clinical development of any drug candidate from our research and development programs is subject to numerous risks and uncertainties associated with the duration and cost of clinical trials, which vary significantly over the life of a project as a result of unanticipated events arising during clinical development.

General and Administrative Expenses

General and administrative expenses decreased by $249,000, or 13%, from $1,848,000 in the three months ended June 30, 2012, to $1,599,000 in the three months ended June 30, 2013 and decreased by $411,000, or 12%, from $3,537,000 in the six months ended June 30, 2012 to $3,126,000 in the six months ended June 30, 2013. General and administrative expenses consist primarily of salary expense, stock compensation expense, consulting fees and professional legal fees associated with our patent applications and maintenance, our corporate regulatory filing requirements, our corporate legal matters, and our business development initiatives. The decrease in general and administration expenses during the three and six months ended June 30, 2013, as compared to the three and six months ended June 30, 2012, was primarily due to lower legal costs associated with patent matters and lower employee compensation mainly due to a decrease in stock based compensation during 2013. These decreases were partially offset by higher corporate legal expenses associated with our corporate regulatory filing requirements.

Decrease (Increase) in Fair Value of Warrant Liability

During November 2011 we recorded a warrant liability reflecting the fair value of the Series D warrants issued in our November 2011 Series D financing. We determined the Series D warrants to be a derivative instrument because they contained a specified anti-dilution provision that did not meet the indexed to the company s own stock exemption requirements in Accounting Standards Codification 815-40, Derivatives and Hedging Contracts in an Entity s own Stock, ASC 815-40. The Series D warrants were classified as a liability, recorded at fair value as of the transaction date and marked to fair value through earnings each quarter. The fair value of the warrants decreased from $2,499,000 at March 31, 2012 to $1,181,000 at June 30, 2012 primarily due to a decrease in the market price of our common stock resulting in the recognition of $1,318,000 in non-operating income during the three months ended June 30, 2012. The fair value of the warrants increased from $1,178,000 at

December 31, 2011 to $1,181,000 at June 30, 2012 primarily due to increases in the expected volatility of the market price of our common stock and in the market price of our common stock resulting in the recognition of $3,000 of non-operating expense during the six months ended June 30, 2012.

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The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D warrants, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. Once the exercise price of the Series D warrants became fixed, the Series D warrants then met the exception under ASC 815-40 as they were now indexed to the company s own stock and met certain criteria for equity classification, thus we marked the Series D warrants to fair value through earnings as of November 9, 2012, and we then reclassified the remaining $503,000 Series D warrant liability to stockholders equity at that time. Consequently, we did not record any non-operating income or expense related to the Series D warrants during the three and six months ended June 30, 2013.

Investment Income, Net

Investment income, net amounted to $2,000 in each of the three months ended June 30, 2013 and 2012 and $4,000 and $6,000 in the six months ended June 30, 2013 and 2012, respectively.

Foreign Currency Exchange (Loss) Gain

Our foreign currency exchange loss was $26,000 in the three months ended June 30, 2013 primarily due to the impact that the decreasing value of the U.S. dollar had on our Euro-denominated accrued liabilities. Our foreign currency exchange gain was $13,000 in the six months ended June 30, 2013 and $117,000 and $41,000 in the three and six months ended June 30, 2012, respectively, primarily due to the impact that the increasing value of the U.S. dollar had on our Euro-denominated accrued liabilities during these periods.

Loss on Extinguishment of Convertible Preferred Stock and Preferred Stock Dividends

The $2,030,000 in preferred stock dividends in the three months ended June 30, 2013 consists of $1,750,000 related to the loss on extinguishment, of the Series D preferred stock that we issued in November 2011 and the Series E preferred stock that we issued in November 2012, that we have charged to net loss applicable to common stockholders as a preferred stock dividend, as described under Note (3) to the condensed financial statements, $211,000 in dividends payable on shares of our Series D preferred stock and $69,000 in dividends payable on shares of our Series E preferred stock. The $2,309,000 in preferred stock dividends in the six months ended June 30, 2013 consists of $1,750,000 related to the loss on extinguishment, of the Series D preferred stock and the Series E preferred stock, that we have charged to net loss applicable to common stockholders as a preferred stock dividend, $422,000 in dividends payable on shares of our Series D preferred stock and $137,000 in dividends payable on shares of our Series E preferred stock. The $160,000 and $320,000 in preferred stock dividends in the three and six months ended June 30, 2012, respectively, consists of dividends payable on shares of our Series D preferred stock. The dividends payable on shares of Series D preferred stock increased in the three and six months ended June 30, 2013, as compared to the three and six months ended June 30, 2012, respectively, because the terms of the Series D preferred stock required that dividends that we pay on the Series E preferred stock also be paid on the Series D preferred stock on an as-converted to common stock basis. As a result of the approval of amendments to the dividend provisions of the Series D Certificate of Designations at the Annual Meeting, effective July 26, 2013, dividends paid on the Series E preferred stock are no longer required to be paid on the Series D preferred stock.

Net Loss Applicable to Common Stockholders

As a result of the factors discussed above, our net loss applicable to common stockholders was $5,621,000 for the three months ended June 30, 2013, compared to $4,047,000 for the three months ended June 30, 2012 and $9,707,000 for the six months ended June 30, 2013 compared to $11,093,000 for the six months ended June 30, 2012. Since January 1, 2001, we have primarily been involved in the development of our TLR pipeline. From January 1, 2001 through June 30, 2013, we incurred losses of $141,863,000. We also incurred net losses of $260,193,000 prior to December 31, 2000 during which time we were primarily involved in the development of non-TLR targeted antisense technology. Since our inception, we had an accumulated deficit of $402,056,000 through June 30, 2013. We expect to continue to incur substantial operating losses in the future.

LIQUIDITY AND CAPITAL RESOURCES

Sources of Liquidity

We require cash to fund our operating expenses and to make capital expenditures. Historically, we have funded our cash requirements primarily through the following:

equity and debt financing;

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license fees, research funding and milestone payments under collaborative and license agreements;

interest income; and

lease financings.

Follow-on Underwritten Public Offering

On May 7, 2013, we closed a follow-on underwritten public offering, in which we sold 17,500,000 shares of common stock, together with warrants to purchase up to 17,500,000 shares of common stock, and pre-funded warrants to purchase up to 15,816,327 shares of common stock, together with warrants to purchase up to 15,816,327 shares of common stock for aggregate gross proceeds of $16.5 million as follows:

	Combined Price (per common share)	Common Stock	Pre-funded Warrants	Matching Warrants
Common stock & matching warrants sold (shares)	$ 0.50	17,500,000		17,500,000
Pre-funded warrants & matching warrants sold (shares)	$ 0.49		15,816,327	15,816,327
Total (shares)		17,500,000	15,816,327	33,316,327
Warrant exercise price (per share)			$ 0.01	$ 0.47
Term of warrant (years)			7.0	5.0

The estimated net proceeds to us from the offering, after deducting underwriters discounts and commissions and other offering costs and expenses and excluding the proceeds of the future exercise of the warrants, if any, were approximately $14.6 million.

The warrants and the pre-funded warrants each provide that, after the second anniversary of the date of issuance, we may redeem the warrants for $0.01 per share of common stock issuable on exercise of the warrants following 30 days prior written notice to the holder if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80.

Series E Preferred Stock and Warrant Financing

In November 2012, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Series E Purchase Agreement, for the issuance and sale of shares of Series E preferred stock and Series E warrants, with Pillar II and a second purchaser, which we refer to as the Series E purchasers. Pillar II is an investment partnership managed by two of our directors and one of our significant stockholders. Under the Series E Purchase Agreement, we issued and sold to the Series E purchasers, for an aggregate purchase price of approximately $7.0 million, 424,242 shares of Series E preferred stock and Series E warrants to purchase up to 8,484,840 shares of common stock. The shares of Series E preferred stock are convertible, subject to limitations, into an aggregate of 8,484,840 shares of common stock at a conversion price of $0.70 per share. The initial exercise price of the Series E warrants is $0.70 per share. The Series E warrants may not be exercised with respect to any portion of the Series E warrants, to the extent that such exercise would result in a Series E purchaser and its affiliates beneficially owning more than 19.99% of the number of shares of common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the Series E warrants. Subject to the foregoing, the warrants to purchase common stock are exercisable immediately, and will expire if not exercised on or prior to November 9, 2017. We agreed to pay to the Series E preferred stockholders quarterly dividends payable in cash in arrears at the rate of 4.6% per annum with the first dividend payment being due on March 31, 2013. Under the terms of the Series D preferred stock, prior to the Annual Meeting, any dividends that we paid on the Series E preferred stock was also to be paid on the Series D preferred stock on an as-converted to common stock basis. As a result of the approval of amendments to the dividend provisions of the Series D Certificate of Designations at the Annual Meeting, effective July 26, 2013, the Series E preferred stockholders are now entitled to receive dividends payable in cash quarterly in arrears at the rate of 8% per annum and dividends paid on the Series E preferred stock are no longer required to be paid on the Series D preferred stock. The net proceeds to us from the Series E financing, excluding the proceeds of any future exercise of the Series E warrants, if any, were approximately $5.9 million.

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Under the terms of the Series E Purchase Agreement, we granted the Series E purchasers participation rights in future financings.

Also under the terms of the Series E Purchase Agreement, each Series E purchaser agreed:

- for so long as the Series E purchaser and its affiliates beneficially own more than 19.99% or 25% (if the Nasdaq Proposal had been approved by our stockholders at the Annual Meeting) of our outstanding common stock, that the Series E purchaser and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion or exercise of securities that are convertible into or exercisable for shares of common stock held by such Series E purchaser and its affiliates) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than the Series E purchasers) vote on such matter;

- to certain restrictions on the transfer of any securities issued to such Series E purchaser pursuant to the Series E Purchase Agreement, including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer more than 5% of the then outstanding combined voting power of our outstanding securities (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering by us that has been approved by the board of directors); and

- to be subject to a standstill provision that continues for so long as such Series E purchaser and its affiliates beneficially own more than 15% of our outstanding common stock.

After the later of November 9, 2014 and the date that no shares of Series D preferred stock remain outstanding, we may redeem all or a portion of the Series E preferred stock for a cash payment equal to the $14.00 original Series E preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon following notice to the holders of the Series E preferred stock if the closing price of the Common Stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 400% of the Series E preferred stock conversion price. We may not redeem any shares of Series E preferred stock from a holder that cannot convert such shares of Series E preferred stock into common stock as a result of the beneficial ownership limitations described above. In such event, we may redeem such nonredeemable shares pursuant to alternative redemption provisions set forth in the Series E Certificate of Designations following notice to the holders of the nonredeemable shares, for a cash payment equal to the greater of the 20 consecutive trading day average closing price per share of the common stock ending on the trading day immediately prior to redemption date plus any dividends accrued or declared but unpaid thereon and the Series E conversion price plus any dividends accrued or declared but unpaid thereon. After November 9, 2014, we may redeem the Series E warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to the Series E purchasers if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80, subject to adjustment.

In connection with the Series E Purchase Agreement, we filed a registration statement that became effective on January 17, 2013, registering the resale of the shares of common stock issuable upon conversion of the Series E preferred stock and the shares of common stock issuable upon exercise of the Series E warrants.

In April 2013, the Company entered into two agreements, which we refer to collectively as the Pillar Agreements, with the Pillar Entities. The agreements, including our obligations to issue the warrants under the Pillar Agreements, became effective upon the consummation of our follow-on underwritten public offering of our securities on May 7, 2013.

Under the first agreement, which we refer to as the April 22, 2013 Pillar Agreement, we agreed to seek and each of Pillar I and Pillar II agreed to vote in favor of, amendments to the Series E Certificate of Designations to:

- modify the dividend provisions of the Series E Certificate of Designations to allow for the payment of dividends in shares of our common stock commencing October 1, 2013; and

allow for the payment of dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership and voting power limitations set forth in the Series E Certificate of Designations.

In addition, under the second agreement, which we refer to as the April 30, 2013 Pillar Agreement, Pillar II and the entity affiliated with Pillar I and Pillar II, together the holders of 100% of the Series E preferred stock, irrevocably waived the right of the holders of the Series E preferred stock under Section 2.1.1 of the Series E Certificate of Designations to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of our company, or Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all

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shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series E preferred stock will receive under Section 2.1 of the Series E Certificate of Designations an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

In accordance with the terms of the Pillar Agreements, we sought approval from our stockholders of amendments to the Series E Certificate of Designations to effect the above described changes to the dividend and liquidation provisions of our Series E preferred stock. These amendments were approved at the Annual Meeting that took place on July 26, 2013. Additional information on the proposals that were approved by our stockholders at the Annual Meeting is included in Note 14 of the notes to our financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Under the April 22, 2013 Pillar Agreement, in consideration of the agreements of Pillar I and Pillar II under the April 22, 2013 Pillar Agreement and the delivery of the waiver by Pillar I, and for no additional cash consideration, we issued to Pillar I warrants, the Pillar I Warrants, to purchase up to 1,000,000 shares of our common stock at an exercise price of $0.61 per share.

In addition, under the April 30, 2013 Pillar Agreement, in consideration of the agreements of the Pillar Entities under the April 30, 2013 Pillar Agreement and the delivery of the waivers by the Pillar Entities, and for no additional cash consideration, we issued to the Pillar Entities warrants, the Additional Pillar Warrants, and together with the Pillar I Warrants, the Pillar Warrants, to purchase up to an aggregate of 1,000,000 shares of our common stock at an exercise price of $0.79 per share.

In connection with the Pillar Agreements, we filed a registration statement that became effective on July 10, 2013, registering the resale of the shares of common stock issuable upon exercise of the Pillar warrants to purchase 2,000,000 shares of our common stock.

Series D Preferred Stock and Warrant Financing

In November 2011, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Series D Purchase Agreement, with Pillar I. The Series D Purchase Agreement was amended in November 2012 in connection with the Series E financing. Under the Series D Purchase Agreement, we issued and sold to Pillar I, for an aggregate purchase price of $9,500,000, 1,124,260 shares of our Series D preferred stock and Series D warrants to purchase up to 2,810,650 shares of our common stock. The shares of Series D preferred stock were initially convertible, subject to limitations, into 5,621,300 shares of our common stock at an initial conversion price of $1.63. The initial exercise price of the warrants was $1.63 per share.

The net proceeds to us from the offering, excluding the proceeds of any future exercise of the Series D warrants, were approximately $9,073,000. No holder of the Series D preferred stock may convert its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of the common stock outstanding. As a result of the dilutive effect of our November 2012 Series E financing, the 1,124,260 shares of our Series D preferred stock became convertible, subject to limitations, into 6,266,175 shares of our common stock and the exercise price of the Series D warrants became fixed at $1.46 per share.

The Series D Purchase Agreement was amended in connection with the Series E financing to provide:

- for so long as Pillar I and its affiliates beneficially own more than 19.99% or 25% (in the event that our stockholders had approved the Nasdaq Proposal at the Annual Meeting) of the outstanding common stock, that Pillar I and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion of securities convertible into or exercisable for shares of common stock held by Pillar I and its affiliates) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than the Series E purchasers and their affiliates) vote on such matter; and

- for certain restrictions on the transfer of any securities issued to Pillar I (including securities convertible into or exercisable for common stock) pursuant to the Series D Purchase Agreement, including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer of more than 5% of the then outstanding combined voting power of the outstanding securities of the Company (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering by the Company that has been approved by our board of directors).

The Series D preferred stockholders are entitled to receive dividends payable quarterly in arrears at the rate of 7% per annum. Such dividends shall be paid in cash through December 31, 2014 and thereafter in cash or with shares of common stock, as determined by us in our sole discretion, except that we may not pay any dividends to a holder of Series D preferred stock in shares of common stock to the extent the issuance of such shares would result in the holder of Series D preferred stock and its affiliates beneficially

owning more than 19.99% of the common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of such shares of common stock. Under the Series E Certificate of Designations we are required to pay to the Series E preferred stockholders quarterly dividends payable in cash in arrears at the rate of 8.0% per annum. Prior to the approval of amendments to the dividend provisions of the Series D Certificate of Designations at the Annual Meeting, any dividends that we paid to the Series E preferred stockholders were also required to be paid to the Series D preferred stockholders on an as-converted to common stock basis. As a result of the approval of amendments to the dividend provisions of the Series D Certificate of Designations at the Annual Meeting, effective July 26, 2013, the Series D preferred stockholders are no longer entitled to corresponding dividends.

After November 4, 2013 and following written notice by us, we may redeem, for a cash payment equal to the $8.1375 original Series D preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon, all or a portion of the Series D preferred stock if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 200% of the Series D preferred stock conversion price. In addition, the holders of shares of Series D preferred stock then outstanding are entitled to require us to purchase the shares of Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of the Company or successor entity.

Under the terms of the Series D Purchase Agreement, Pillar I agreed to be subject to a standstill provision that continues for so long as Pillar I and its affiliates beneficially own more than 15% of our outstanding common stock.

The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D warrants, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. The Series D warrants may be exercised at Pillar I s option at any time on or before November 4, 2016. The Series D warrants, as amended in connection with the November 2012 Series E financing, provide that the Series D warrants may not be exercised with respect to any portion of the warrants, to the extent that such exercise would result in Pillar I and its affiliates beneficially owning more than 19.99% of the number of shares of common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the Series D warrants. After November 4, 2013, we may redeem the Series D warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to Pillar I if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $6.51, subject to adjustment.

In connection with the Series D Purchase Agreement, we also filed a registration statement that became effective on December 21, 2011, registering the resale of the shares of common stock issuable upon conversion of the Series D preferred stock and the shares of common stock issuable upon exercise of the Series D warrants. In February 2013, we filed a registration statement that became effective on February 8, 2013 covering the resale of additional shares of common stock issuable upon conversion of the Series D preferred stock.

Under the April 22, 2013 Pillar Agreement, Pillar I irrevocably waived and agreed to not exercise the rights, powers, preferences and other terms of the Series D preferred stock under Section 6 of the Series D Certificate of Designations, including without limitation the right to require us to purchase all or any portion of the shares of our Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of the Company or successor entity.

In addition, under the April 22, 2013 Pillar Agreement, we agreed to seek approval and each of Pillar I and Pillar II agreed to vote in favor, of amendments to the Series D Certificate of Designations to:

- modify the dividend provisions of the Series D Certificate of Designations to change the date after which we may elect to pay dividends in shares of our common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership and voting power limitations set forth in the Series D Certificate of Designations; and

modify the Series D Certificate of Designations to provide, in the event of a sale of our company, for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A convertible preferred stock and any other class of our capital stock that ranks senior to our Series D preferred stock, to the holders of our Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and such new series of non-voting preferred stock.

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Under the April 30, 2013 Pillar Agreement, Pillar I irrevocably waived the right of the holders of the Series D preferred stock under Section 2.1 of the Series D Certificate of Designations to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company, or Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

In accordance with the terms of the Pillar Agreements, we sought approval from our stockholders of amendments to the Series D Certificate of Designations to effect the above described changes to the dividend and liquidation provisions of our Series D preferred stock, the redemption rights of the holders of our Series D preferred stock and the rights of the holders of our Series D preferred stock to distributions in the event of a sale of our company. These amendments were approved at the Annual Meeting that took place on July 26, 2013. Additional information on the amendments to the Series D Certificate of Designations that were approved by our stockholders at the Annual Meeting is included in Note 14 of the notes to our financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

The Pillar Agreements, including our obligations to issue the Pillar Warrants under the Pillar Agreements, became effective upon the consummation of our follow-on underwritten public offering of our securities on May 7, 2013.

Cowen Sales Agreement

In April 2012, we entered into a sales agreement with Cowen pursuant to which we may issue and sell shares of our common stock, having an aggregate offering price of up to $10.0 million from time to time through Cowen as our sales agent. Cowen may sell our common stock by methods deemed to be an at-the-market offering, as defined under the Securities Act, including sales made directly on the Nasdaq Capital Market, on any other existing trading market for our common stock or to or through a market maker other than on an exchange. With our prior written approval, Cowen may also sell our common stock by any other method permitted by law, including in privately negotiated transactions.

Cowen has agreed to offer the common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and Cowen. Under the arrangement, we will designate the maximum amount of our common stock to be sold through Cowen on a daily basis or otherwise determine such maximum amount together with Cowen. Subject to the terms and conditions of the sales agreement, Cowen has agreed to use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct Cowen not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. We or Cowen may suspend the offering of the common stock being made through Cowen under the sales agreement upon proper notice to the other party. We and Cowen each have the right, by giving written notice as specified in the sales agreement, to terminate the sales agreement in each party s sole discretion at any time.

The sales agreement provides that Cowen will be entitled to aggregate compensation for its services equal to 3.0% of the gross sales price per share of all shares sold through Cowen under the sales agreement. We have no obligation to sell any shares under the sales agreement. We have agreed in the sales agreement to provide indemnification and contribution to Cowen against certain liabilities, including liabilities under the Securities Act. In addition, we have agreed, under certain circumstances, to reimburse a portion of the expenses of Cowen in connection with the offering of common stock up to a maximum of $50,000. The shares will be issued pursuant to our shelf registration statement on Form S 3 (File No. 333-169060).

We had not sold any shares under the sales agreement as of July 31, 2013.

Collaboration Agreements

Under the terms of our collaboration with Merck KGaA, which was terminated in November 2011, we received in February 2008 a $40.0 million upfront license fee in Euros of which we received $39.7 million due to foreign currency exchange rates and approximately $12.1 million in milestone payments. In addition, Merck KGaA reimbursed us $4.5 million for expenses related to the development of IMO-2055. In connection with the termination of the collaboration, we agreed to reimburse Merck KGaA for up to 1.8 million ($2.4 million using a June 30, 2013 exchange rate) of Merck KGaA s costs for the third-party contract research organization that was coordinating Merck KGaA s Phase 2 trial of IMO-2055 in combination with cetuximab, payable in eleven installments commencing on March 1, 2012 including a final payment payable upon Merck KGaA s completion of certain specified

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activities. As of June 30, 2013, we have paid 0.9 of the 1.8 million ($1.1 million (using exchange rates in effect at the time that the payments were made) of the $2.4 million). We also agreed to pay to Merck KGaA one-time 1.0 million ($1.3 million using a June 30, 2013 exchange rate) milestone payments upon the occurrence of each of the following milestones: partnering of IMO-2055 with any third party, initiation of any Phase 2 or Phase 3 clinical trial for IMO-2055 and regulatory submission of IMO-2055 in any country.

Under the terms of our collaboration with Merck & Co., Merck & Co. paid us a $20.0 million license fee in December 2006 and purchased 1,818,182 shares of our common stock for a price of $5.50 per share for an aggregate purchase price of $10.0 million. In addition, we received $1.0 million in milestone payments and $3.4 million in research and development payments.

Cash Flows

Six Months Ended June 30, 2013

As of June 30, 2013, we had approximately $16,301,000 in cash and cash equivalents, a net increase of approximately $6,205,000 from December 31, 2012. Net cash used in operating activities totaled $8,006,000 during the six months ended June 30, 2013, reflecting our $7,398,000 net loss, as adjusted for non-cash income and expenses, including stock-based compensation and depreciation. It also reflects changes in our prepaid expenses and accounts payable, accrued expenses and other liabilities.

The $14,212,000 net cash provided by financing activities during the six months ended June 30, 2013 primarily reflects $14,832,000 in net proceeds from our follow-on underwritten public offering of our securities in May, 2013 which were partially offset by $111,000 in costs related to the 2012 Series E financing that were paid in 2013 and dividends paid on our Series D preferred stock and our Series E preferred stock.

Six Months Ended June 30, 2012

As of June 30, 2012, we had approximately $13,227,000 in cash and cash equivalents, a net decrease of approximately $11,344,000 from December 31, 2011. Net cash used in operating activities totaled $11,082,000 during the six months ended June 30, 2012, reflecting our $10,773,000 net loss for the six months ended June, 30, 2012, as adjusted for non-cash expenses, including stock-based compensation and depreciation. It also reflects changes in our prepaid expenses and accounts payable, accrued expenses and a liability associated with recording rent expense on a straight-line basis over the term of our facility lease. The net cash used in financing activities totaled $262,000 during the six months ended June 30, 2012 representing the dividends paid on our Series D preferred stock less the proceeds received from employee stock purchases under our employee stock purchase plan.

Funding Requirements

We have incurred operating losses in all fiscal years except 2002, 2008 and 2009, and we had an accumulated deficit of $402,056,000 at June 30, 2013. We expect to incur substantial operating losses in future periods. These losses, among other things, have had and will continue to have an adverse effect on our stockholders equity, total assets and working capital. We have received no revenues from the sale of drugs. As of July 31, 2013, almost all of our revenues have been from collaboration and license agreements. We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any drugs. Because of the numerous risks and uncertainties associated with developing drugs, we are unable to predict the extent of any future losses, whether or when any of our products will become commercially available or when we will become profitable, if at all.

We do not expect to generate significant additional funds internally until we successfully complete development and obtain marketing approval for products, either alone or in collaboration with third parties, which we expect will take a number of years. In addition, we have no committed external sources of funds.

We had cash and cash equivalents of approximately $16,301,000 at June 30, 2013. We believe that our existing cash and cash equivalents, will enable us to fund our operations at least through the fourth quarter of 2014. We believe that our available funds will be sufficient to enable us to conduct our ongoing Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. We will need to raise additional funds in order to conduct any other clinical development of IMO-8400 or to conduct any other development of our other drug candidates or technologies.

We expect that we will require substantial additional funds to conduct research and development, including preclinical testing and clinical trials of our drug candidates and to fund our operations. We are seeking and expect to continue to seek additional funding through collaborations, the sale or license of assets or financings of equity or debt securities. We believe that the key factors that will affect our ability to obtain funding are:

the results of our clinical and preclinical development programs, including the results of the Phase 1 clinical trial of IMO-8400 and the results of the Phase 2 clinical trial of IMO-8400 in patients with moderate to severe plaque psoriasis that we initiated in June 2013;

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developments relating to our existing strategic collaboration with Merck & Co.;

our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;

the cost, timing and outcome of regulatory reviews;

competitive and potentially competitive products and technologies and investors receptivity to our drug candidates and the technology underlying them in light of competitive products and technologies;

the receptivity of the capital markets to financings by biotechnology companies generally and companies with drug candidates and technologies such as ours specifically; and

our ability to enter into new strategic collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

In addition, increases in expenses or delays in clinical development may adversely impact our cash position and require additional funds or further cost reductions. Financing may not be available to us when we need it or may not be available to us on favorable or acceptable terms. We could be required to seek funds through collaborative alliances or others that may require us to relinquish rights to some of our technologies, drug candidates or drugs that we would otherwise pursue on our own. In addition, if we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, and are likely to include rights that are senior to the holders of our common stock. Any additional debt financing or equity that we raise may contain terms, such as liquidation and other preferences, or liens or other restrictions on our assets, which are not favorable to us or our stockholders. An equity financing that involves existing stockholders may cause a concentration of ownership. The terms of any financing may adversely affect the holdings or the rights of existing stockholders. If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates or relinquish rights to portions of our technology, drug candidates and/or products.

Nasdaq Listing

Our common stock began trading on the Nasdaq Capital Market on February 7, 2013. In order to continue the listing of our common stock on the Nasdaq Capital Market, we are required to meet the requirements for continued listing on the Nasdaq Capital Market. If we do not meet these continued listing requirements, our common stock will be delisted.

On November 26, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market indicating that, based on the closing bid price of our common stock for the 30 consecutive business days prior to November 26, 2012, we no longer satisfied the requirement that our common stock maintain a minimum bid price of $1.00 per share as required by Nasdaq Listing Rule 5450(a)(1). The Staff stated in its letter that in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we had 180 calendar days, or until May 28, 2013, to regain compliance with the minimum bid price requirement. We did not evidence compliance with the minimum bid price requirement as of May 28, 2013.

On May 29, 2013, we received a letter from the Staff indicating that although we did not evidence compliance with the minimum bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2), within the initial 180 day compliance period ended May 28, 2013, we were granted an additional 180 calendar day period, or until November 25, 2013, to evidence compliance with the minimum bid price requirement. In its letter, the Staff indicated that if, at any time prior to November 25, 2013, the bid price for our shares closes at or above $1.00 per share for a minimum of 10 consecutive business days (unless the Staff exercises its discretion to extend the minimum 10-day period), the Staff will provide written confirmation to us of our compliance with the minimum bid price requirement.

On August 12, 2013, we received formal notice from the Listing Qualifications Staff of the NASDAQ Stock Market indicating that we had regained compliance with the minimum bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2), and otherwise satisfied all requirements for continued listing on The NASDAQ Capital Market, and, as a result, that the matter was closed. Prior to February 7, 2013, our common stock was traded on the Nasdaq Global Market where we were required to meet specified financial requirements, including

requirements that we maintain a minimum stockholders equity of $10.0 million or a minimum

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market value of listed securities of $50.0 million. On June 7, 2012, we received a notification letter from the Staff advising us that we were not in compliance with these requirements. Nasdaq also stated in its letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had been provided a compliance period of 180 calendar days, or until December 4, 2012, to regain compliance with these requirements. Because we were not able to regain compliance with these requirements by such date, we requested a hearing before the Panel, at which we requested continued listing pending our return to compliance. Our hearing request stayed the suspension of trading and delisting of our common stock pending the conclusion of the hearing process.

On February 5, 2013, the Panel granted our request to transfer the listing of our common stock from the Nasdaq Global Market to the Nasdaq Capital Market and to continue the listing of our common stock on the Nasdaq Capital Market, provided that we satisfied the $2.5 million stockholders equity requirement on or before March 31, 2013, and otherwise met the continued listing requirements of the Nasdaq Capital Market. On March 5, 2013, the Panel extended this date to May 22, 2013 and indicated that by such date, in addition to satisfying the $2.5 million stockholders equity requirement for continued listing on that market and otherwise meeting the continued listing requirements of the Nasdaq Capital Market, we were also required to provide the Panel with additional information regarding our projected burn-rate and stockholders equity through May 31, 2014. On May 8, 2013, we received formal notice from the Nasdaq Stock Market that we had evidenced compliance with the minimum stockholders equity requirement for continued listing on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5450(b)(2) as required by the Panel and that the matter had been closed

Contractual Obligations

During the three months ended June 30, 2013, there were no material changes outside the ordinary course of our business to our contractual obligations as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2012.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Foreign currency exchange gains and losses may result from amounts to be paid under our Merck KGaA collaboration and termination agreements and payments under our clinical trial agreements that are denominated in Euros. As of June 30, 2013, we had net accrued obligations of 1.0 million ($1.2 million using a June 30, 2013 exchange rate). All other assets and liabilities are in U.S. dollars, which is our functional currency.

We maintain investments in accordance with our investment policy. The primary objectives of our investment activities are to preserve principal, maintain proper liquidity to meet operating needs and maximize yields. Although our investments are subject to credit risk, our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer or type of investment. We regularly review our investment holdings in light of the then current economic environment. We do not own auction rate securities or derivative financial investment instruments in our investment portfolio. At June 30, 2013, all of our invested funds were invested in a money market fund classified in cash and cash equivalents on the accompanying balance sheet.

Based on a hypothetical ten percent adverse movement in interest rates, the potential losses in future earnings, fair value of risk sensitive financial instruments, and cash flows are immaterial, although the actual effects may differ materially from the hypothetical analysis.

ITEM 4. CONTROLS AND PROCEDURES.

(a) *Evaluation of Disclosure Controls and Procedures.* Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of June 30, 2013. In designing and evaluating our disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, our chief executive officer and chief financial officer concluded that as of June 30, 2013, our disclosure controls and procedures were (1) designed to ensure that material information relating to us is made known to our chief executive officer and chief financial officer by others, particularly during the period in which this report was prepared, and (2) effective, in that they provide reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms.

(b) *Changes in Internal Controls*. No change in our internal control over financial reporting occurred during the fiscal quarter ended June 30, 2013 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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PART II OTHER INFORMATION

Item 1A. RISK FACTORS.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks described below together with all of the other information included or incorporated by reference in this Quarterly Report on Form 10-Q before purchasing our common stock. Our business, financial condition and results of operations could be materially and adversely affected by any of these risks or uncertainties. In that case, the market price of our common stock could decline, and you may lose all or part of your investment in our securities.

Risks Relating to Our Financial Results and Need for Financing

We will need additional financing, which may be difficult to obtain. Our failure to obtain necessary financing or doing so on unattractive terms could result in the termination of our operations and the sale and license of our assets or otherwise adversely affect our research and development programs and other operations.

We had cash and cash equivalents of approximately $16.3 million at June 30, 2013. We believe that our existing cash and cash equivalents, will enable us to fund our operations at least through the fourth quarter of 2014. We believe that our available funds will be sufficient to enable us to conduct our ongoing Phase 2 clinical trial of IMO-8400 in patients with psoriasis and to plan for further clinical development of IMO-8400. We will need to raise additional funds in order to conduct any other clinical development of IMO-8400 or to conduct any other development of our other drug candidates or technologies.

We expect that we will require substantial additional funds to conduct research and development, including preclinical testing and clinical trials of our drug candidates and to fund our operations. We are seeking and expect to continue to seek additional funding through collaborations, the sale or license of assets or financings of equity or debt securities. We believe that the key factors that will affect our ability to obtain funding are:

- the results of our clinical and preclinical development programs, including the results of our Phase 1 clinical trial of IMO-8400 and the results of the Phase 2 clinical trial of IMO-8400 in patients with moderate to severe plaque psoriasis that we initiated in June 2013;
- developments related to our existing collaboration with Merck & Co.;
- our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;
- the cost, timing, and outcome of regulatory reviews;
- competitive and potentially competitive products and technologies and investors receptivity to our drug candidates and the technology underlying them in light of competitive products and technologies;
- the receptivity of the capital markets to financings by biotechnology companies generally and companies with drug candidates and technologies such as ours specifically; and
- our ability to enter into additional collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

In addition, increases in expenses or delays in clinical development may adversely impact our cash position and require additional funds or further cost reductions.

Financing may not be available to us when we need it or may not be available to us on favorable or acceptable terms or at all. We could be required to seek funds through collaborative alliances or through other means that may require us to relinquish rights to some of our technologies, drug candidates or drugs that we would otherwise pursue on our own. In addition, if we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. The terms of any financing may adversely affect the holdings or the rights of existing stockholders. An equity financing that involves existing stockholders may cause a concentration of ownership. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, and are likely to include rights that are senior to the holders of our common stock. Any additional debt financing or equity that we raise may contain terms, such as liquidation and other preferences, or liens or other restrictions on our assets, which are not favorable to us or our stockholders.

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If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates or relinquish rights to portions of our technology, drug candidates and/or products.

Our independent auditors have expressed substantial doubt about our ability to continue as a going concern.

We have received a report dated March 11, 2013 from Ernst & Young LLP, our independent registered public accounting firm, regarding our financial statements as of December 31, 2012 and for the fiscal year then ended, which included an explanatory paragraph stating that the financial statements were prepared assuming we will continue as a going concern. The report also stated that our recurring losses and negative cash flows from operations will require us to raise additional capital or obtain alternative means of financial support, or both, prior to December 31, 2013 in order to continue to fund our operations. These factors raise substantial doubt about our ability to continue as a going concern. The going concern explanatory paragraph included in our auditor s report on our financial statements could inhibit our ability to finance our operations. On May 7, 2013, we raised $16.5 million in gross proceeds from a follow-on underwritten public offering of our securities, increasing our cash resources sufficiently to fund our operations at least through the fourth quarter of 2014. We will need to raise substantial additional funds in order to conduct research and development, including preclinical testing and clinical trials of our drug candidates, and to fund our operations beyond such time. If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates or relinquish rights to portions of our technology, drug candidates and/or products.

We must meet the Nasdaq Capital Market continued listing requirements or we risk delisting. If our common stock were to be delisted, our stock price may decline and it would likely make it more difficult for us to sell securities in a financing and for our stockholders to trade our stock.

Our common stock began trading on the Nasdaq Capital Market on February 7, 2013. In order to continue the listing of our common stock on the Nasdaq Capital Market, we are required to meet the continued listing requirements of the Nasdaq Capital Market. If we do not meet these continued listing requirements, our common stock will be delisted.

On November 26, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market, or the Staff, indicating that, based on the closing bid price of our common stock for the 30 consecutive business days prior to November 26, 2012, we no longer satisfied the requirement that our common stock maintain a minimum bid price of $1.00 per share as required by Nasdaq Listing Rule 5450(a)(1). The Staff stated in its letter that in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we had 180 calendar days, or until May 28, 2013, to regain compliance with the minimum bid price requirement. We did not evidence compliance with the minimum bid price requirement as of May 28, 2013.

On May 29, 2013, we received a letter from the Staff indicating that although we did not evidence compliance with the minimum bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2), within the initial 180 day compliance period ended May 28, 2013, we were granted an additional 180 calendar day period, or until November 25, 2013, to evidence compliance with the minimum bid price requirement. In its letter, the Staff indicated that if, at any time prior to November 25, 2013, the bid price for our shares closes at or above $1.00 per share for a minimum of 10 consecutive business days (unless the Staff exercises its discretion to extend the minimum 10-day period), the Staff will provide written confirmation to us of our compliance with the minimum bid price requirement.

On August 12, 2013, we received formal notice from the Listing Qualifications Staff of the NASDAQ Stock Market indicating that we had regained compliance with the minimum bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2), and otherwise satisfied all requirements for continued listing on The NASDAQ Capital Market, and, as a result, that the matter was closed.

Prior to February 7, 2013, our common stock was traded on the Nasdaq Global Market where we were required to meet specified financial requirements, including requirements that we maintain a minimum stockholders equity of $10.0 million or a minimum market value of listed securities of $50.0 million. On June 7, 2012, we received a notification letter from the Staff advising us that we were not in compliance with these requirements. Nasdaq also stated in its letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had been provided a compliance period of 180 calendar days, or until December 4, 2012, to regain compliance with these requirements. Because we were not able to regain compliance with these requirements by such date, we requested a hearing before the Panel at which we requested continued listing pending our return to compliance. Our hearing request stayed the suspension of trading and delisting of our common stock pending the conclusion of the hearing process.

On February 5, 2013, the Panel granted our request to transfer the listing of our common stock from the Nasdaq Global Market to the Nasdaq Capital Market and to continue the listing of our common stock on the Nasdaq Capital Market, provided that we

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satisfied the $2.5 million stockholders equity requirement on or before March 31, 2013, and otherwise met the continued listing requirements of the Nasdaq Capital Market. On March 5, 2013, the Panel extended this date to May 22, 2013 and indicated that by such date, in addition to satisfying the $2.5 million stockholders equity requirement for continued listing on that market and otherwise meeting the continued listing requirements of the Nasdaq Capital Market, we were also required to provide the Panel with additional information regarding our projected burn-rate and stockholders equity through May 31, 2014. On May 8, 2013, we received formal notice from the Nasdaq Stock Market that we had evidenced compliance with the minimum stockholders equity requirement for continued listing on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5450(b)(2) as required by the Panel and that the matter had been closed.

If our common stock was to be delisted from the Nasdaq Capital Market, it may be eligible to trade on the Over-The-Counter Bulletin Board, which may be a less liquid market, or on the pink sheets. In such case, our stockholders ability to trade, or obtain quotations of the market value of, shares of our common stock would be severely limited because of lower trading volumes and transaction delays. These factors could contribute to lower prices and larger spreads in the bid and ask prices for our securities. There can be no assurance that our common stock, if in the future it were to be delisted from the Nasdaq Capital Market, would be listed on a national securities exchange, a national quotation service, the Over-The-Counter Bulletin Board or the pink sheets. Delisting from the Nasdaq Capital Market, or even the issuance of a notice of potential delisting, would also result in negative publicity, make it more difficult for us to raise additional capital, adversely affect the market liquidity of our common stock, reduce security analysts coverage of us and diminish investor, supplier and employee confidence.

We have incurred substantial losses and expect to continue to incur losses. We will not be successful unless we reverse this trend.

We have incurred losses in every year since our inception, except for 2002, 2008, and 2009 when our recognition of revenues under license and collaboration agreements resulted in our reporting net income for those years. As of June 30, 2013, we had an accumulated deficit of $402.1 million. Since January 1, 2001, we have primarily been involved in the development of our TLR pipeline. From January 1, 2001 to June 30, 2013, we incurred losses of $141.9 million. We incurred losses of $260.2 million prior to December 31, 2000 during which time we were primarily involved in the development of non-TLR targeted antisense technology. These losses, among other things, have had and will continue to have an adverse effect on our stockholders equity, total assets, and working capital.

We have never had any products of our own available for commercial sale and have received no revenues from the sale of drugs. As of June 30, 2013, almost all of our revenues have been from collaborative and license agreements. We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any drug candidates. Because of the numerous risks and uncertainties associated with developing drugs, we are unable to predict the extent of any future losses, whether or when any of our drug candidates will become commercially available, or when we will become profitable, if at all. We expect to incur substantial operating losses in future periods.

Risks Relating to Our Business, Strategy and Industry

We are depending heavily on the development of TLR-targeted drug candidates for the treatment of autoimmune and inflammatory diseases. If we terminate the development of the program or any of our drug candidates in the program, are unable to successfully develop and commercialize any of our drug candidates, or experience significant delays in doing so, our business may be materially harmed.

We have invested a significant portion of our time and financial resources in the development of clinical stage lead drug candidates as part of our autoimmune and inflammatory disease program. In June 2013, we initiated a Phase 2 clinical trial in patients with psoriasis to, among other things, evaluate the clinical activity of IMO-8400 with a treatment period of up to 12 weeks. We expect to have top-line data from this Phase 2 trial during the first quarter of 2014.

We are also planning to initiate additional clinical trials of IMO-8400 in additional disease indications. However, our plans to conduct these trials are subject to our ability to fund the conduct of these trials with additional financing. We expect to seek such additional funding through public or private equity offerings, debt financings, collaborations and licensing arrangements, and other sources.

As such, we anticipate that our ability to generate product revenues will depend heavily on the successful development and commercialization of our drug candidates in our autoimmune and inflammatory disease program. Our ability to generate product revenues will also depend on the development and commercialization of the drug candidates being developed under our collaboration with Merck & Co. Our efforts, and the efforts of Merck & Co., to develop and commercialize these compounds are at an early stage and are subject to many challenges. We have experienced setbacks with respect to our programs for IMO-3100, IMO-2125, and IMO-2055, including:

During the fourth quarter of 2010, we commenced additional nonclinical studies of IMO-3100 in light of some reversible immune responses that were observed in the 13-week nonclinical toxicology studies and that were inconsistent with observations made in our other nonclinical studies of IMO-3100. In June 2011, we submitted a Phase 2 protocol to the United States Food and Drug Administration, or FDA, to conduct a 12-week clinical trial of IMO-3100 in patients with psoriasis. In July 2011, the FDA placed a clinical hold on the protocol that we had submitted. In October 2011, we submitted to FDA a new Phase 2 protocol to evaluate IMO-3100 in adult patients with moderate to severe plaque psoriasis, over a four-week treatment period. In December 2011, the FDA removed the clinical hold. We subsequently initiated in the second quarter of 2012 the four-week Phase 2 clinical trial that we completed in the fourth quarter of 2012. We cannot be certain that the FDA will allow us to conduct further clinical trials of IMO-3100 for treatment periods of more than four weeks or at all without additional clinical or preclinical data.

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In April 2011, we chose to delay initiation of our planned 12-week Phase 2 randomized clinical trial of IMO-2125 plus ribavirin in treatment-naïve, genotype 1 hepatitis C virus, or HCV, patients based on preliminary observations in an ongoing 26-week chronic nonclinical toxicology study of IMO-2125 in rodents. We subsequently completed a 39-week chronic nonclinical toxicology study of IMO-2125 in non-human primates in which there were no similar observations. During the third quarter of 2011, we re-assessed and prioritized our drug development programs, and determined to discontinue further investment of internal resources on the development of IMO-2125 for the treatment of HCV.

In July 2011, Merck KGaA, Darmstadt, Germany, or Merck KGaA, informed us that, based on increased incidence of neutropenia and electrolyte imbalances reported in its Phase 1 trial of IMO-2055 in combination with cisplatin/5-FU and cetuximab in patients with first-line squamous cell carcinoma of the head and neck, or SCCHN, and subsequent re-evaluation of its clinical development program, Merck KGaA had determined that it would not conduct further clinical development of IMO-2055. In November 2011, as part of an agreed-upon termination of our collaboration with Merck KGaA, we regained global rights to IMO-2055 and our other TLR9 agonists, including preclinical lead drug candidates selected for further evaluation under the collaboration, for the treatment of cancer. In May 2012, we announced that in the Phase 2 trial of IMO-2055 in combination with cetuximab in patients with second-line SCCHN, the combination of IMO-2055 and cetuximab did not meet the primary endpoint of the trial.

We intend to seek to enter into collaborations with pharmaceutical companies to advance the use of our TLR candidates. Our setbacks with respect to our programs for IMO-3100, IMO-2125, and IMO-2055 could negatively impact our ability to license any of such compounds to a third party.

Our ability to successfully develop and commercialize these drug candidates, or other potential candidates, will depend on our ability to overcome these recent challenges and on several factors, including the following:

- the drug candidates demonstrating activity in clinical trials;
- the drug candidates demonstrating an acceptable safety profile in nonclinical toxicology studies and during clinical trials;
- timely enrollment in clinical trials of IMO-8400 and other drug candidates, which may be slower than anticipated, potentially resulting in significant delays;
- satisfying conditions imposed on us and/or our collaborators by the FDA or equivalent foreign regulatory authorities regarding the scope or design of clinical trials;
- the ability to demonstrate to the satisfaction of the FDA, or equivalent foreign regulatory authorities, the safety and efficacy of the drug candidates through current and future clinical trials;
- timely receipt of necessary marketing approvals from the FDA and equivalent foreign regulatory authorities;
- the ability to combine our drug candidates and the drug candidates being developed by Merck & Co. and any other collaborators safely and successfully with other therapeutic agents;
- achieving and maintaining compliance with all regulatory requirements applicable to the products;

establishment of commercial manufacturing arrangements with third-party manufacturers;

the successful commercial launch of the drug candidates, assuming FDA approval is obtained, whether alone or in combination with other products;

acceptance of the products as safe and effective by patients, the medical community, and third-party payors;

competition from other companies and their therapies;

changes in treatment regimes;

successful protection of our intellectual property rights from competing products in the United States and abroad; and

a continued acceptable safety and efficacy profile of the drug candidates following marketing approval.

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If our clinical trials are unsuccessful, or if they are delayed or terminated, we may not be able to develop and commercialize our products.

In order to obtain regulatory approvals for the commercial sale of our products, we are required to complete extensive clinical trials in humans to demonstrate the safety and efficacy of our drug candidates. Clinical trials are lengthy, complex, and expensive processes with uncertain results. We may not be able to complete any clinical trial of a potential product within any specified time period. Moreover, clinical trials may not show our potential products to be both safe and efficacious. The FDA or other equivalent foreign regulatory agencies may not allow us to complete these trials or commence and complete any other clinical trials. For example, in July 2011, the FDA placed a clinical hold on a protocol we had submitted for a proposed Phase 2 clinical trial of IMO-3100 in patients with psoriasis.

The results from preclinical testing of a drug candidate that is under development may not be predictive of results that will be obtained in human clinical trials. In addition, the results of early human clinical trials may not be predictive of results that will be obtained in larger scale, advanced stage clinical trials. Furthermore, interim results of a clinical trial do not necessarily predict final results, and failure of any of our clinical trials can occur at any stage of testing. Companies in the biotechnology and pharmaceutical industries, including companies with greater experience in preclinical testing and clinical trials than we have, have suffered significant setbacks in clinical trials, even after demonstrating promising results in earlier trials. Moreover, effects seen in nonclinical studies, even if not observed in clinical trials, may result in limitations or restrictions on clinical trials. Numerous unforeseen events may occur during, or as a result of, preclinical testing, nonclinical testing or the clinical trial process that could delay or inhibit the ability to receive regulatory approval or to commercialize drug products.

Other companies developing drugs targeted to TLRs have experienced setbacks in clinical trials. For example in 2007, Coley Pharmaceutical Group, which since has been acquired by Pfizer, Inc., or Pfizer, discontinued four clinical trials for PF-3512676, its investigational TLR9 agonist compound, in combination with cytotoxic chemotherapy in cancer, and suspended its development of Actilon®, a TLR9 agonist, for HCV infection. In July 2007, Anadys Pharmaceuticals, Inc. and its partner Novartis Pharmaceuticals, Ltd., or Novartis, discontinued the development of ANA975, the investigational TLR7 agonist compound for HCV infection. Dynavax Technologies Corporation, or Dynavax, announced in May 2008 discontinuation of the clinical development program for TOLAMBA®, an investigational vaccine which contained a TLR9 agonist adjuvant, and in February 2013 Dynavax announced receipt of a Complete Response Letter from FDA regarding its Biological License Application for HEPLISAV®, which is an investigational hepatitis B vaccine that contains a TLR9 agonist adjuvant. These setbacks with respect to TLR-targeted drug candidates may result in enhanced scrutiny by regulators or institutional review boards, or IRBs, of clinical trials of TLR-targeted drug candidates, including our TLR-targeted drug candidates, which could result in regulators or IRBs prohibiting the commencement of clinical trials, requiring additional nonclinical studies as a precondition to commencing clinical trials or imposing restrictions on the design or scope of clinical trials that could slow enrollment of trials, increase the costs of trials or limit the significance of the results of trials. Such setbacks could also adversely impact the desire of investigators to enroll patients in, and the desire of patients to enroll in, clinical trials of TLR-targeted drug candidates.

Other events that could delay or inhibit conduct of our clinical trials include:

- regulators or IRBs may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- nonclinical or clinical data may not be readily interpreted, which may lead to delays and/or misinterpretation;
- our nonclinical tests, including toxicology studies, or clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional nonclinical testing or clinical trials or we may abandon projects that we expect may not be promising;
- the rate of enrollment or retention of patients in our clinical trials may be lower than we expect;
- we might have to suspend or terminate our clinical trials if the participating subjects experience serious adverse events or undesirable side effects or are exposed to unacceptable health risks;

regulators or IRBs may hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements, issues identified through inspections of manufacturing or clinical trial operations or clinical trial sites, or if, in their opinion, the participating subjects are being exposed to unacceptable health risks;

regulators may hold or suspend our clinical trials while collecting supplemental information on, or clarification of, our clinical trials or other clinical trials, including trials conducted in other countries or trials conducted by other companies;

we, along with our collaborators and subcontractors, may not employ, in any capacity, persons who have been debarred under the FDA s Application Integrity Policy, or similar policy under foreign regulatory authorities. Employment of such debarred persons, even if inadvertent, may result in delays in the FDA s or foreign equivalent s review or approval of our products, or the rejection of data developed with the involvement of such person(s);

the cost of our clinical trials may be greater than we currently anticipate; and

our products may not cause the desired effects or may cause undesirable side effects or our products may have other unexpected characteristics.

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The rate of completion of clinical trials is dependent in part upon the rate of enrollment of patients. For example, in our Phase 1 clinical trial of IMO-2125 in patients with chronic HCV infection who had not responded to the current standard of care therapy, completion of each cohort took longer than anticipated due to enrollment procedures. Patient accrual is a function of many factors, including:

- the size of the patient population;
- the proximity of patients to clinical sites;
- the eligibility criteria for the trial;
- the nature of the trial, including the pattern of patient enrollment;
- the existence of competitive clinical trials; and
- the availability of alternative treatments.

We do not know whether clinical trials will begin as planned, will need to be restructured or will be completed on schedule, if at all. Significant clinical trial delays also could allow our competitors to bring products to market before we do and impair our ability to commercialize our products.

Delays in commencing clinical trials of potential products could increase our costs, delay any potential revenues, and reduce the probability that a potential product will receive regulatory approval.

Our drug candidates and our collaborators drug candidates will require preclinical and other nonclinical testing and extensive clinical trials prior to submission of any regulatory application for commercial sales. In conducting clinical trials, we cannot be certain that any planned clinical trial will begin on time, if at all. Delays in commencing clinical trials of potential products could increase our product development costs, delay any potential revenues, and reduce the probability that a potential product will receive regulatory approval.

Commencing clinical trials may be delayed for a number of reasons, including delays in:

- manufacturing sufficient quantities of drug candidate that satisfy the required quality standards for use in clinical trials;
- demonstrating sufficient safety to obtain regulatory approval for conducting a clinical trial;
- reaching an agreement with any collaborators on all aspects of the clinical trial;
- reaching agreement with contract research organizations, if any, and clinical trial sites on all aspects of the clinical trial;
- resolving any objections from the FDA or any regulatory authority on an Investigational New Drug application, or IND, or proposed clinical trial design;

obtaining IRB approval for conducting a clinical trial at a prospective site; and

enrolling patients in order to commence the clinical trial.

The technologies on which we rely are unproven and may not result in any approved and marketable products.

Our technologies or therapeutic approaches are relatively new and unproven. We have focused our efforts on the research and development of RNA- and DNA-based compounds targeted to TLRs and on GSOs. Neither we nor any other company have obtained regulatory approval to market such compounds as therapeutic drugs, and no such products currently are being marketed. It is unknown whether the results of preclinical studies with TLR-targeted compounds will be indicative of results that may be obtained in clinical trials, and results we have obtained in the clinical trials we have conducted to date may not be predictive of results in subsequent large-scale clinical trials. Further, the chemical and pharmacological properties of RNA- and DNA-based compounds targeted to TLRs or of GSOs may not be fully recognized in preclinical studies and small-scale clinical trials, and such compounds may interact with human biological systems in unforeseen, ineffective or harmful ways that we have not yet identified.

As a result of these factors, we may never succeed in obtaining regulatory approval to market any product. Furthermore, the commercial success of any of our products for which we may obtain marketing approval from the FDA or other regulatory authorities will depend upon their acceptance by patients, the medical community, and third-party payors as clinically useful, safe, and cost-effective. In addition, if products being developed by our competitors have negative clinical trial results or otherwise are viewed negatively, the perception of our technologies and market acceptance of our products could be impacted negatively.

Our recent setbacks with respect to our TLR-targeted compounds, together with the setbacks experienced by other companies developing TLR-targeted compounds, may result in a negative perception of our technology and our TLR-targeted compounds, impact our ability to obtain marketing approval of these drug candidates and adversely affect acceptance of our technology and our TLR-targeted compounds by patients, the medical community and third-party payors.

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Our efforts to educate the medical community on our potentially unique approaches may require greater resources than would be typically required for products based on conventional technologies or therapeutic approaches. The safety, efficacy, convenience, and cost-effectiveness of our products as compared to competitive products will also affect market acceptance.

We face substantial competition, which may result in others discovering, developing or commercializing drugs before or more successfully than us.

We are developing our TLR-targeted drug candidates for use in the treatment of autoimmune and inflammatory diseases and for use as vaccine adjuvants. We have two drug candidates in clinical development in our autoimmune and inflammatory disease program. We are also collaborating with Merck & Co. for the use of agonists of TLR7, TLR8, and TLR9 as vaccine adjuvants for cancer, infectious diseases and Alzheimer s disease. Finally, we are seeking to enter into collaborative alliances with pharmaceutical companies to advance our TLR-targeted programs in oncology and respiratory diseases, and for the use of TLR3 agonists as vaccine adjuvants, as well as applications of our GSO technology platform. For all of these disease areas, there are many other companies, public and private, that are actively engaged in discovery, development, and commercializing products and technologies that may compete with our drug candidates and programs, including TLR targeted compounds as well as non-TLR targeted therapies.

Our principal competitor developing TLR-targeted compounds for autoimmune and inflammatory diseases is Dynavax, with its collaborator, GlaxoSmithKline plc., or GlaxoSmithKline. Merck & Co. s vaccines using our TLR7, TLR8 or TLR9 agonists as adjuvants may compete with vaccines using TLR agonists as adjuvants being developed or marketed by GlaxoSmithKline, Novartis, Dynavax, VaxInnate, Inc., Intercell AG, and Cytos Biotechnology AG.

We are developing drug candidates for the treatment of moderate to severe plaque psoriasis. There are a number of well-known immune suppressors and biologics that are currently being widely used for the treatment of moderate to severe plaque psoriasis, including methotrexate and cyclosporine, which are both immune suppressors, and biologics like Enbrel, which is marketed by Amgen Inc., or Amgen, Pfizer, and Takeda Pharmaceutical Company Limited, Remicade, which is marketed by Janssen Biotech, Merck & Co., and Mitsubishi Tanabe Pharma, Humira, which is marketed by Abbott Laboratories, and Stelara, which is marketed by Janssen Biotech. In addition to existing treatments, we are also aware of additional compounds for the treatment of moderate to severe plaque psoriasis that are currently in late stage development, including apremilast, which is being developed by Celgene Corporation, tofacitinib, which is being developed by Pfizer, secukinumab, which is being developed by Novartis, ixekizumab, which is being developed by Eli Lilly and Company, and brodalumab, which is being developed by Amgen, AstraZeneca PLC, and Kyowa Hakko Kirin Co., Ltd.

Some of these potentially competitive products have been in development or commercialized for years, in some cases by large, well established pharmaceutical companies. Many of the marketed products have been accepted by the medical community, patients, and third-party payors. Our ability to compete may be affected by the previous adoption of such products by the medical community, patients, and third-party payors. Additionally, in some instances, insurers and other third-party payors seek to encourage the use of generic products, which makes branded products, such as our drug candidates, potentially less attractive, from a cost perspective, to buyers.

We recognize that other companies, including large pharmaceutical companies, may be developing or have plans to develop products and technologies that may compete with ours. Many of our competitors have substantially greater financial, technical, and human resources than we have. In addition, many of our competitors have significantly greater experience than we have in undertaking preclinical studies and human clinical trials of new pharmaceutical products, obtaining FDA and other regulatory approvals of products for use in health care and manufacturing, and marketing and selling approved products. Our competitors may discover, develop or commercialize products or other novel technologies that are more effective, safer or less costly than any that we are developing. Our competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours.

We anticipate that the competition with our products and technologies will be based on a number of factors including product efficacy, safety, availability, and price. The timing of market introduction of our products and competitive products will also affect competition among products. We expect the relative speed with which we can develop products, complete the clinical trials and approval processes, and supply commercial quantities of the products to the market to be important competitive factors. Our competitive position will also depend upon our ability to attract and retain qualified personnel, to obtain patent protection or otherwise develop proprietary products or processes, protect our intellectual property, and to secure sufficient capital resources for the period between technological conception and commercial sales.

Competition for technical and management personnel is intense in our industry, and we may not be able to sustain our operations or grow if we are unable to attract and retain key personnel.

Our success is highly dependent on the retention of principal members of our technical and management staff, including Dr. Sudhir Agrawal. Dr. Agrawal serves as our President and Chief Executive Officer. Dr. Agrawal has made significant contributions to the field of oligonucleotide-based drug candidates, and has led the discovery and development of our compounds targeted to TLRs.

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He is named as an inventor on over 400 patents and patent applications in countries around the world. Dr. Agrawal provides us with leadership for our management team and research and development activities. The loss of Dr. Agrawal s services would be detrimental to our ongoing scientific progress and the execution of our business plan.

We are a party to an employment agreement with Dr. Agrawal that expires on October 19, 2015, but automatically extends annually for additional one-year periods. This agreement may be terminated by us or Dr. Agrawal for any reason or no reason at any time upon notice to the other party. We do not carry key man life insurance for Dr. Agrawal.

Furthermore, our future growth will require hiring a number of qualified technical and management personnel. Accordingly, recruiting and retaining such personnel in the future will be critical to our success. There is intense competition from other companies and research and academic institutions for qualified personnel in the areas of our activities. If we are not able to continue to attract and retain, on acceptable terms, the qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or growth.

Regulatory Risks

We may not be able to obtain marketing approval for products resulting from our development efforts.

All of the drug candidates that we are developing, or may develop in the future, will require additional research and development, extensive preclinical studies, nonclinical testing, clinical trials, and regulatory approval prior to any commercial sales. This process is lengthy, often taking a number of years, is uncertain, and is expensive. Since our inception, we have conducted clinical trials of a number of compounds. Currently we have two clinical stage compounds, IMO-3100 and IMO-8400 for our autoimmune program. The FDA and other regulatory authorities may not approve any of our potential products for any indication.

We may need to address a number of technological challenges in order to complete development of our products. Moreover, these products may not be effective in treating any disease or may prove to have undesirable or unintended side effects, unintended alteration of the immune system over time, toxicities or other characteristics that may preclude our obtaining regulatory approval or prevent or limit commercial use. If we do not obtain necessary regulatory approvals, our business will be adversely affected.

We are subject to comprehensive regulatory requirements, which are costly and time consuming to comply with; if we fail to comply with these requirements, we could be subject to adverse consequences and penalties.

The testing, manufacturing, labeling, advertising, promotion, export, and marketing of our products are subject to extensive regulation by governmental authorities in Europe, the United States, and elsewhere throughout the world.

In general, submission of materials requesting permission to conduct clinical trials may not result in authorization by the FDA or any equivalent foreign regulatory agency to commence clinical trials. Further, permission to continue ongoing trials may be withdrawn by the FDA or other regulatory agencies at any time after initiation, based on new information available after the initial authorization to commence clinical trials or for other reasons. In addition, submission of an application for marketing approval to the relevant regulatory agency following completion of clinical trials may not result in the regulatory agency approving the application if applicable regulatory criteria are not satisfied, and may result in the regulatory agency requiring additional testing or information.

Even if we obtain regulatory approval for any of our product candidates, we will be subject to ongoing FDA obligations and regulatory oversight. Any regulatory approval of a product may contain limitations on the approved indicated uses for which the product may be marketed or requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. Any product for which we obtain marketing approval, along with the facilities at which the product is manufactured, any post-approval clinical data, and any advertising and promotional activities for the product will be subject to continual review and periodic inspections by the FDA and other regulatory agencies.

Both before and after approval is obtained, failure to comply with regulatory requirements, or discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, may result in:

- the regulatory agency s delay in approving, or refusal to approve, an application for marketing of a product or a supplement to an approved application;

restrictions on our products or the marketing or manufacturing of our products;

withdrawal of our products from the market;

warning letters;

voluntary or mandatory product recalls;

fines;

suspension or withdrawal of regulatory approvals;

product seizure or detention;

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refusal to permit the import or export of our products;

injunctions or the imposition of civil penalties; and

criminal penalties.

We have only limited experience in regulatory affairs and our products are based on new technologies; these factors may affect our ability or the time we require to obtain necessary regulatory approvals.

We have only limited experience in filing the applications necessary to obtain regulatory approvals. Moreover, the products that result from our research and development programs will likely be based on new technologies and new therapeutic approaches that have not been extensively tested in humans. The regulatory requirements governing these types of products may be more rigorous than for conventional drugs. As a result, we may experience a longer regulatory process in connection with obtaining regulatory approvals of any product that we develop.

Failure to obtain regulatory approval in jurisdictions outside the United States will prevent us from marketing our products abroad.

We intend to market our products, if approved, in markets outside the United States, which will require separate regulatory approvals and compliance with numerous and varying regulatory requirements. The approval procedures vary among such markets and may involve requirements for additional testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all.

Risks Relating to Collaborators

If we are unable to establish additional collaborative alliances, our business may be materially harmed.

Collaborators provide the necessary resources and drug development experience to advance our compounds in their programs. We are seeking to enter into collaborative alliances with pharmaceutical companies to advance certain of our TLR-targeted programs, as well as applications of our GSO technology platform.

Upfront payments and milestone payments received from collaborations help to provide us with the financial resources for our internal research and development programs. Our internal programs are focused on developing TLR-targeted drug candidates for the potential treatment of autoimmune and inflammatory diseases. We believe that additional resources will be required to advance compounds in all of these areas. If we do not reach agreements with additional collaborators in the future, we may not be able to obtain the expertise and resources necessary to achieve our business objectives, our ability to advance our compounds will be jeopardized and we may fail to meet our business objectives.

We may have difficulty establishing additional collaborative alliances, particularly with respect to our TLR-targeted drug candidates and technology. Potential partners may note that our TLR collaborations with Novartis and with Merck KGaA have been terminated. Potential partners may also be reluctant to establish collaborations with respect to IMO-2125, IMO-3100, IMO-2055, and our other TLR-targeted drug candidates, given our recent setbacks with respect to these drug candidates. We also face, and expect to continue to face, significant competition in seeking appropriate collaborators.

Even if a potential partner were willing to enter into a collaborative alliance with respect to our TLR-targeted compounds or technology, the terms of such a collaborative alliance may not be on terms that are favorable to us. Moreover, collaborations are complex and time consuming to negotiate, document, and implement. We may not be successful in our efforts to establish and implement collaborations on a timely basis.

Our existing collaboration and any collaborations we enter into in the future may not be successful.

An important element of our business strategy includes entering into collaborative alliances with corporate collaborators, primarily large pharmaceutical companies, for the development, commercialization, marketing, and distribution of some of our drug candidates. In December 2007, we entered into an exclusive, worldwide license agreement with Merck KGaA to research, develop, and commercialize products containing our TLR9 agonists for treatment of cancer, excluding cancer vaccines. In December 2006, we entered into an exclusive license and research collaboration with Merck & Co. to research, develop, and commercialize vaccine products containing our TLR7, TLR8, and TLR9

agonists in the fields of cancer, infectious diseases, and Alzheimer s disease.

Any collaboration that we enter into may not be successful. For instance, in July 2011, Merck KGaA informed us that it had determined not to conduct further clinical development of IMO-2055, and in November 2011, we entered into an agreement with Merck KGaA terminating our collaboration with them. The success of our collaborative alliances, if any, will depend heavily on the efforts and activities of our collaborators. Our existing collaboration and any potential future collaborations have risks, including the following:

- our collaborators may control the development of the drug candidates being developed with our technologies and compounds including the timing of development;

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our collaborators may control the public release of information regarding the developments, and we may not be able to make announcements or data presentations on a schedule favorable to us;

disputes may arise in the future with respect to the ownership of rights to technology developed with our collaborators;

disagreements with our collaborators could delay or terminate the research, development or commercialization of products, or result in litigation or arbitration;

we may have difficulty enforcing the contracts if any of our collaborators fail to perform;

our collaborators may terminate their collaborations with us, which could make it difficult for us to attract new collaborators or adversely affect the perception of us in the business or financial communities;

our collaboration agreements are likely to be for fixed terms and subject to termination by our collaborators in the event of a material breach or lack of scientific progress by us;

our collaborators may have the first right to maintain or defend our intellectual property rights and, although we would likely have the right to assume the maintenance and defense of our intellectual property rights if our collaborators do not, our ability to do so may be compromised by our collaborators acts or omissions;

our collaborators may challenge our intellectual property rights or utilize our intellectual property rights in such a way as to invite litigation that could jeopardize or invalidate our intellectual property rights or expose us to potential liability;

our collaborators may not comply with all applicable regulatory requirements, or may fail to report safety data in accordance with all applicable regulatory requirements;

our collaborators may change the focus of their development and commercialization efforts. Pharmaceutical and biotechnology companies historically have re-evaluated their priorities following mergers and consolidations, which have been common in recent years in these industries. For example, we have a strategic partnership with Merck & Co., which merged with Schering-Plough, which has been involved with certain TLR-targeted research and development programs. Although the merger has not affected our partnership with Merck & Co. to date, management of the combined company could determine to reduce the efforts and resources that the combined company will apply to its strategic partnership with us or terminate the strategic partnership. The ability of our products to reach their potential could be limited if our collaborators decrease or fail to increase spending relating to such products;

our collaborators may under fund or not commit sufficient resources to the testing, marketing, distribution or development of our products; and

our collaborators may develop alternative products either on their own or in collaboration with others, or encounter conflicts of interest or changes in business strategy or other business issues, which could adversely affect their willingness or ability to fulfill their obligations to us.

Given these risks, it is possible that any collaborative alliance into which we enter may not be successful. Collaborations with pharmaceutical companies and other third parties often are terminated or allowed to expire by the other party. For example, effective as of February 2010, Novartis terminated the research collaboration and option agreement that we entered into with it in May 2005, and in November 2011, we

entered into an agreement with Merck KGaA terminating our collaboration with them. In addition, Merck & Co. may terminate its license and research collaboration agreement by giving us 90 days advance notice. The termination or expiration of our agreement with Merck & Co. or any other collaboration agreement that we enter into in the future may adversely affect us financially and could harm our business reputation.

Risks Relating to Intellectual Property

If we are unable to obtain patent protection for our discoveries, the value of our technology and products will be adversely affected.

Our patent positions, and those of other drug discovery companies, are generally uncertain and involve complex legal, scientific, and factual questions. Our ability to develop and commercialize drugs depends in significant part on our ability to:

obtain patents;

obtain licenses to the proprietary rights of others on commercially reasonable terms;

operate without infringing upon the proprietary rights of others;

prevent others from infringing on our proprietary rights; and

protect our trade secrets.

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We do not know whether any of our patent applications or those patent applications that we license will result in the issuance of any patents. Our issued patents and those that may be issued in the future, or those licensed to us, may be challenged, invalidated or circumvented, and the rights granted thereunder may not provide us proprietary protection or competitive advantages against competitors with similar technology. Moreover, intellectual property laws may change and negatively impact our ability to obtain issued patents covering our technologies or to enforce any patents that issue. Because of the extensive time required for development, testing, and regulatory review of a potential product, it is possible that, before any of our products can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thus reducing any advantage provided by the patent.

Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors can be certain that we or they were the first to make the inventions claimed in issued patents or pending patent applications, or that we or they were the first to file for protection of the inventions set forth in these patent applications.

As of July 31, 2013, we owned more than 50 U.S. patents and patent applications and more than 100 patents and patent applications throughout the rest of the world for our TLR-targeted immune modulation technologies. These patents and patent applications include novel chemical compositions of matter and methods of use of our IMO compounds, including IMO-3100, IMO-8400, and IMO-2055. As of July 31, 2013, all of our intellectual property covering immune modulatory compositions and methods of their use is based on discoveries made solely by us. These patents expire at various dates ranging from 2017 to 2031. With respect to IMO-3100, we have issued U.S. patents that cover the chemical composition of matter of IMO-3100 and methods of its use that will expire at the earliest in 2026. With respect to IMO-8400, we have an issued U.S. patent that covers the chemical composition of matter of IMO-8400 and methods of its use that will expire at the earliest in 2031. With respect to IMO-2055, we have issued U.S. patents that cover the chemical composition of matter of IMO-2055 and methods of its use, including in combination with marketed cancer products, with the earliest composition claims in the United States expiring in 2023.

As of July 31, 2013, we owned one issued U.S. Patent, three U.S. patent applications and six worldwide patent applications for our GSO compounds and methods of their use. Patents issuing from these patent applications, if any, would expire at the earliest in 2030.

In addition to our TLR-targeted and GSO patent portfolios, we are the owner or hold licenses of patents and patent applications related to antisense technology. As of July 31, 2013, our antisense patent portfolio included more than 75 U.S. patents and patent applications and more than 75 patents and patent applications throughout the rest of the world. These antisense patents and patent applications include novel compositions of matter, the use of these compositions for various genes, sequences and therapeutic targets, and oral and other routes of administration. Some of the patents and patent applications in our antisense portfolio were in-licensed. These in-licensed patents expire at various dates ranging from 2013 to 2021.

Third parties may own or control patents or patent applications and require us to seek licenses, which could increase our development and commercialization costs, or prevent us from developing or marketing products.

Although we have many issued patents and pending patent applications in the United States and other countries, we may not have rights under certain third-party patents or patent applications related to our products. Third parties may own or control these patents and patent applications in the United States and abroad. In particular, we are aware of third-party U.S. patents that contain broad claims related to the use of certain oligonucleotides for stimulating an immune response, although we do not believe that these claims are valid. In addition, there may be other patents and patent applications related to our products of which we are not aware. Therefore, in some cases, in order to develop, manufacture, sell or import some of our products, we or our collaborators may choose to seek, or be required to seek, licenses under third-party patents issued in the United States and abroad or under third-party patents that might issue from U.S. and foreign patent applications. In such an event, we would be required to pay license fees or royalties or both to the licensor. If licenses are not available to us on acceptable terms, we or our collaborators may not be able to develop, manufacture, sell or import these products.

We may lose our rights to patents, patent applications or technologies of third parties if our licenses from these third parties are terminated. In such an event, we might not be able to develop or commercialize products covered by the licenses.

Currently, we have not in-licensed any patents or patent applications related to our TLR-targeted drug candidate programs or our GSO compounds and methods of their use. However, we are party to six royalty-bearing license agreements under which we have acquired rights to patents, patent applications, and technology of third parties in the field of antisense technology, which may be applicable to our TLR-targeted antisense. Under these licenses we are obligated to pay royalties on net sales by us of products or processes covered by a valid claim of a patent or patent application licensed to us. We also are required in some cases to pay a specified percentage of any sublicense income that we may receive. These licenses impose various commercialization, sublicensing, insurance, and other obligations on us.

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Our failure to comply with these requirements could result in termination of the licenses. These licenses generally will otherwise remain in effect until the expiration of all valid claims of the patents covered by such licenses or upon earlier termination by the parties. The issued patents covered by these licenses expire at various dates ranging from 2013 to 2021. If one or more of these licenses is terminated, we may be delayed in our efforts, or be unable, to develop and market the products that are covered by the applicable license or licenses.

We may become involved in expensive patent litigation or other proceedings, which could result in our incurring substantial costs and expenses or substantial liability for damages or require us to stop our development and commercialization efforts.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the biotechnology industry. We may become a party to various types of patent litigation or other proceedings regarding intellectual property rights from time to time even under circumstances where we are not practicing and do not intend to practice any of the intellectual property involved in the proceedings. For instance, in 2002, 2003, and 2005, we became involved in interference proceedings declared by the United States Patent and Trademark Office for some of our antisense and ribozyme patents. All of these interferences have since been resolved. We are neither practicing nor intending to practice the intellectual property that is associated with any of these interference proceedings.

The cost to us of any patent litigation or other proceeding even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. If any patent litigation or other proceeding is resolved against us, we or our collaborators may be enjoined from developing, manufacturing, selling or importing our drugs without a license from the other party and we may be held liable for significant damages. We may not be able to obtain any required license on commercially acceptable terms or at all.

Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

Risks Relating to Product Manufacturing, Marketing and Sales, and Reliance on Third Parties

Because we have limited manufacturing experience, and no manufacturing facilities or infrastructure, we are dependent on third-party manufacturers to manufacture drug candidates for us. If we cannot rely on third-party manufacturers, we will be required to incur significant costs and devote significant efforts to establish our own manufacturing facilities and capabilities.

We have limited manufacturing experience and no manufacturing facilities, infrastructure or clinical or commercial scale manufacturing capabilities. In order to continue to develop our drug candidates, apply for regulatory approvals, and ultimately commercialize products, we need to develop, contract for or otherwise arrange for the necessary manufacturing capabilities.

We currently rely upon third parties to produce material for nonclinical and clinical testing purposes and expect to continue to do so in the future. We also expect to rely upon third parties to produce materials that may be required for the commercial production of our products. Our current and anticipated future dependence upon others for the manufacture of our drug candidates may adversely affect our future profit margins and our ability to develop drug candidates and commercialize any drug candidates on a timely and competitive basis. We currently do not have any long term supply contracts.

There are a limited number of manufacturers that operate under the FDA s current Good Manufacturing Practices, or cGMP, regulations capable of manufacturing our drug candidates. As a result, we may have difficulty finding manufacturers for our products with adequate capacity for our needs. If we are unable to arrange for third-party manufacturing of our drug candidates on a timely basis, or to do so on commercially reasonable terms, we may not be able to complete development of our drug candidates or market them.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured drug candidates ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control;

the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us;

the potential that third-party manufacturers will develop know-how owned by such third party in connection with the production of our drug candidates that becomes necessary for the manufacture of our drug candidates; and

reliance upon third-party manufacturers to assist us in preventing inadvertent disclosure or theft of our proprietary knowledge.

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Any contract manufacturers with which we enter into manufacturing arrangements will be subject to ongoing periodic, unannounced inspections by the FDA, or foreign equivalent, and corresponding state and foreign agencies or their designees to ensure compliance with cGMP requirements and other governmental regulations and corresponding foreign standards. For example, one of our contract manufacturers notified us that it had received a cGMP warning letter from the FDA in February 2011. This contract manufacturer no longer manufactures drug product for us. Any failure by our third-party manufacturers to comply with such requirements, regulations or standards could lead to a delay in the conduct of our clinical trials, or a delay in, or failure to obtain, regulatory approval of any of our drug candidates. Such failure could also result in sanctions being imposed, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, product seizures or recalls, imposition of operating restrictions, total or partial suspension of production or distribution, or criminal prosecution.

Additionally, contract manufacturers may not be able to manufacture our drug candidates at a cost or in quantities necessary to make them commercially viable. As of July 31, 2013, our third-party manufacturers have met our manufacturing requirements, but we cannot be assured that they will continue to do so. Furthermore, changes in the manufacturing process or procedure, including a change in the location where the drug substance or drug product is manufactured or a change of a third-party manufacturer, may require prior FDA review and approval in accordance with the FDA s cGMP and NDA/BLA regulations. Contract manufacturers may also be subject to comparable foreign requirements. This review may be costly and time-consuming and could delay or prevent the launch of a drug candidate. The FDA or similar foreign regulatory agencies at any time may also implement new standards, or change their interpretation and enforcement of existing standards for manufacture, packaging or testing of products. If we or our contract manufacturers are unable to comply, we or they may be subject to regulatory action, civil actions or penalties.

We have no experience selling, marketing or distributing products and no internal capability to do so.

If we receive regulatory approval to commence commercial sales of any of our drug candidates, we will face competition with respect to commercial sales, marketing, and distribution. These are areas in which we have no experience. To market any of our drug candidates directly, we would need to develop a marketing and sales force with technical expertise and with supporting distribution capability. In particular, we would need to recruit a large number of experienced marketing and sales personnel. Alternatively, we could engage a pharmaceutical or other healthcare company with an existing distribution system and direct sales force to assist us. However, to the extent we entered into such arrangements, we would be dependent on the efforts of third parties. If we are unable to establish sales and distribution capabilities, whether internally or in reliance on third parties, our business would suffer materially.

If third parties on whom we rely for clinical trials do not perform as contractually required or as we expect, we may not be able to obtain regulatory approval for or commercialize our products and our business may suffer.

We do not have the ability to independently conduct the clinical trials required to obtain regulatory approval for our drug candidates. We depend on independent clinical investigators, contract research organizations, and other third-party service providers in the conduct of the clinical trials of our drug candidates and expect to continue to do so. We contracted with contract research organizations to manage our Phase 1 and Phase 2 clinical trials of IMO-3100, our Phase 1 clinical trial of IMO-8400 and our ongoing Phase 2 clinical trial of IMO-8400 in patients with psoriasis, and expect to contract with such organizations for future clinical trials. We rely heavily on these parties for successful execution of our clinical trials, but do not control many aspects of their activities. We are responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA and foreign regulatory agencies require us to comply with certain standards, commonly referred to as good clinical practices, and applicable regulatory requirements, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of clinical trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Third parties may not complete activities on schedule, or at all, or may not conduct our clinical trials in accordance with regulatory requirements or our stated protocols. The failure of these third parties to carry out their obligations could delay or prevent the development, approval, and commercialization of our drug candidates. If we seek to conduct any of these activities ourselves in the future, we will need to recruit appropriately trained personnel and add to our infrastructure.

The commercial success of any drug candidates that we may develop will depend upon the degree of market acceptance by physicians, patients, third-party payors, and others in the medical community.

Any products that we ultimately bring to the market, if they receive marketing approval, may not gain market acceptance by physicians, patients, third-party payors or others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate product revenue and we may not become profitable. The degree of market acceptance of our drug candidates, if approved for commercial sale, will depend on a number of factors, including:

the prevalence and severity of any side effects, including any limitations or warnings contained in the product s approved labeling;

the efficacy and potential advantages over alternative treatments;

the ability to offer our drug candidates for sale at competitive prices;

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relative convenience and ease of administration;

the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;

the strength of marketing and distribution support and the timing of market introduction of competitive products; and

publicity concerning our products or competing products and treatments.

Even if a potential product displays a favorable efficacy and safety profile, market acceptance of the product will not be known until after it is launched. Our efforts to educate patients, the medical community, and third-party payors on the benefits of our drug candidates may require significant resources and may never be successful. Such efforts to educate the marketplace may require more resources than are required by conventional technologies marketed by our competitors.

If we are unable to obtain adequate reimbursement from third-party payors for any products that we may develop or acceptable prices for those products, our revenues and prospects for profitability will suffer.

Most patients rely on Medicare, Medicaid, private health insurers, and other third-party payors to pay for their medical needs, including any drugs we may market. If third-party payors do not provide adequate coverage or reimbursement for any products that we may develop, our revenues and prospects for profitability will suffer. Congress enacted a limited prescription drug benefit for Medicare recipients in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. While the program established by this statute may increase demand for our products if we were to participate in this program, our prices will be negotiated with drug procurement organizations for Medicare beneficiaries and are likely to be lower than we might otherwise obtain. Non-Medicare third-party drug procurement organizations may also base the price they are willing to pay on the rate paid by drug procurement organizations for Medicare beneficiaries or may otherwise negotiate the price they are willing to pay.

A primary trend in the United States healthcare industry is toward cost containment. In addition, in some foreign countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take six months or longer after the receipt of regulatory marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost effectiveness of our drug candidates or products to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in commercialization of our products. These further clinical trials would require additional time, resources, and expenses. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our prospects for generating revenue, if any, could be adversely affected and our business may suffer.

In March 2010, the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act became law. These health care reform laws are intended to broaden access to health insurance; reduce or constrain the growth of health care spending, especially Medicare spending; enhance remedies against fraud and abuse; add new transparency requirements for health care and health insurance industries; impose new taxes and fees on certain sectors of the health industry; and impose additional health policy reforms. Among the new fees is an annual assessment on makers of branded pharmaceuticals and biologics, under which a company s assessment is based primarily on its share of branded drug sales to federal health care programs. Such fees could affect our future profitability. Although it is too early to determine the effect of the new health care legislation on our future profitability and financial condition, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

Third-party payors are challenging the prices charged for medical products and services, and many third-party payors limit reimbursement for newly-approved health care products. These third-party payors may base their coverage and reimbursement on the coverage and reimbursement rate paid by carriers for Medicare beneficiaries. Furthermore, many such payors are investigating or implementing methods for reducing health care costs, such as the establishment of capitated or prospective payment systems. Cost containment pressures have led to an increased emphasis on the use of cost-effective products by health care providers. In particular, third-party payors may limit the indications for which they will reimburse patients who use any products that we may develop. Cost control initiatives could limit the price we might establish for products that we or our current or future collaborators may develop or sell, which would result in lower product revenues or royalties payable to us.

We face a risk of product liability claims and may not be able to obtain insurance.

Our business exposes us to the risk of product liability claims that is inherent in the manufacturing, testing, and marketing of human therapeutic drugs. We face an inherent risk of product liability exposure related to the testing of our drug candidates in human clinical trials and will face an even greater risk if we commercially sell any products. Regardless of merit or eventual outcome, liability claims and product recalls may result in:

decreased demand for our drug candidates and products;

damage to our reputation;

regulatory investigations that could require costly recalls or product modifications;

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withdrawal of clinical trial participants;

costs to defend related litigation;

substantial monetary awards to clinical trial participants or patients, including awards that substantially exceed our product liability insurance, which we would then have to pay using other sources, if available, and would damage our ability to obtain liability insurance at reasonable costs, or at all, in the future;

loss of revenue;

the diversion of management s attention away from managing our business; and

the inability to commercialize any products that we may develop.

Although we have product liability and clinical trial liability insurance that we believe is adequate, this insurance is subject to deductibles and coverage limitations. We may not be able to obtain or maintain adequate protection against potential liabilities. If we are unable to obtain insurance at acceptable cost or otherwise protect against potential product liability claims, we will be exposed to significant liabilities, which may materially and adversely affect our business and financial position. These liabilities could prevent or interfere with our commercialization efforts.

Risks Relating to Ownership of Our Common Stock

Our corporate governance structure, including provisions in our certificate of incorporation and by-laws and Delaware law, may prevent a change in control or management that stockholders may consider desirable.

Section 203 of the Delaware General Corporation Law and our certificate of incorporation and by-laws contain provisions that might enable our management to resist a takeover of our company or discourage a third party from attempting to take over our company. These provisions include:

a classified board of directors;

limitations on the removal of directors;

limitations on stockholder proposals at meetings of stockholders;

the inability of stockholders to act by written consent or to call special meetings; and

the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval.

In addition, Section 203 of the Delaware General Corporation Law imposes restrictions on our ability to engage in business combinations and other specified transactions with significant stockholders. These provisions could have the effect of delaying, deferring or preventing a change in control of us or a change in our management that stockholders may consider favorable or beneficial. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors and take other corporate actions. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock.

The preferred stock and warrants issued to certain affiliates of Pillar Invest Corporation, our largest stockholder group, in connection with our Series D and Series E financing have rights, preferences and privileges that are not held by, and are preferential to the rights of, our common stockholders. As a result, the interests of Pillar and its affiliates may differ from the interests of our common stockholders.

In connection with our November 2011 Series D redeemable convertible preferred stock financing, which we refer to as our November 2011 Series D financing, we issued to Pillar Pharmaceuticals I, L.P., or Pillar I, 1,124,260 shares of our Series D redeemable convertible preferred stock, or Series D preferred stock, which shares are convertible into 6,266,175 shares of our common stock, and warrants exercisable for up to 2,810,650 shares of our common stock. In connection with our November 2012 Series E convertible preferred stock financing, which we refer to as our November 2012 Series E financing, we issued to Pillar Pharmaceuticals II, L.P., or Pillar II, and an affiliated second purchaser an aggregate of 424,242 shares of our Series E convertible preferred stock, or Series E preferred stock, which shares are convertible into 8,484,840 shares of our common stock, and warrants exercisable for up to 8,484,840 shares of our common stock. In connection with the Pillar Agreements, we issued to the Pillar Entities warrants exercisable for up to 2,000,000 shares of common stock. In connection with our follow-on underwritten public offering in May 2013, we issued to the Pillar Entities and Pillar Pharmaceuticals III, L.P., or Pillar III, and together with the Pillar Entities, the Pillar Investment Entities, 5,000,000 shares of our common stock and warrants exercisable for up to 5,000,000 shares of common stock. As a result, the Pillar Investment Entities are collectively our largest stockholder group. In addition, two members of our board of directors are affiliates of the Pillar Investment Entities. In connection with their ownership of these securities, the Pillar Investment Entities obtained various rights, preferences and privileges that are not held by the holders of our common stock and that in certain instances are preferential to the rights of the holders of our common stock. As a result, the interests of the Pillar Investment Entities

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may differ from the interests of the holders of our common stock in material respects. Although there are contractual limitations on the beneficial ownership and voting rights of the Pillar Investment Entities, the Pillar Investment Entities may still be able to exert substantial influence over our business.

The securities issued in our Series D and Series E financings have certain rights with respect to dividends, that may adversely affect our common stockholders and that may adversely affect our ability to obtain financing in the future.

The rights, preferences and privileges of the Series D preferred stock and Series E preferred stock that we issued and sold in our November 2011 Series D financing and November 2012 Series E financing, respectively, provide the holders of such securities with significant rights, including preferential rights with respect to dividends, which are not provided to the holders of our common stock. The dividend rights of the Series D preferred stock and Series E preferred stock may adversely affect our liquidity. For example, our obligation to pay quarterly cash dividends to the holders of our preferred stock has reduced and will continue to reduce the funds that would otherwise be available to us for working capital and other general corporate purposes. In addition, under certain circumstances, we are entitled to pay dividends on our Series D preferred stock and Series E preferred stock in shares of common stock. If we were to pay such dividends in common stock, our existing stockholders will experience dilution.

The rights, preferences and privileges associated with our Series D preferred stock and Series E preferred stock may adversely affect our ability to obtain financing in the future, including potentially limiting the price that investors might be willing to pay in the future for shares of our common stock or our other securities.

Our stock price has been and may in the future be extremely volatile. In addition, because an active trading market for our common stock has not developed, our investors ability to trade our common stock may be limited. As a result, investors may lose all or a significant portion of their investment.

Our stock price has been volatile. During the period from January 1, 2011 to July 31, 2013, the closing sales price of our common stock ranged from a high of $3.25 per share to a low of $0.46 per share. The stock market has also experienced periods of significant price and volume fluctuations and the market prices of biotechnology companies in particular have been highly volatile, often for reasons that have been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

- our cash resources;
- timing and results of nonclinical studies and clinical trials of our drug candidates or those of our competitors;
- the regulatory status of our drug candidates;
- failure of any of our drug candidates, if approved, to achieve commercial success;
- the success of competitive products or technologies;
- regulatory developments in the United States and foreign countries;
- our success in entering into collaborative agreements;
- developments or disputes concerning patents or other proprietary rights;

the departure of key personnel;

our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;

variations in our financial results or those of companies that are perceived to be similar to us;

the terms of any financing consummated by us;

changes in the structure of healthcare payment systems;

market conditions in the pharmaceutical and biotechnology sectors and issuance of new or changed securities analysts reports or recommendations; and

general economic, industry, and market conditions.

In addition, our common stock has historically been traded at low volume levels and may continue to trade at low volume levels. As a result, any large purchase or sale of our common stock could have a significant impact on the price of our common stock and it may be difficult for investors to sell our common stock in the market without depressing the market price for the common stock or at all.

As a result of the foregoing, investors may not be able to resell their shares at or above the price they paid for such shares. Investors in our common stock must be willing to bear the risk of fluctuations in the price of our common stock and the risk that the value of their investment in our stock could decline.

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ITEM 6. EXHIBITS.

The list of Exhibits filed as part of this Quarterly Report on Form 10-Q is set forth on the Exhibit Index immediately preceding such Exhibits and is incorporated herein by this reference.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

IDERA PHARMACEUTICALS, INC.

Date: August 14, 2013

/s/ Sudhir Agrawal
Sudhir Agrawal
President and Chief Executive Officer

(Principal Executive Officer)

Date: August 14, 2013

/s/ Louis J. Arcudi, III
Louis J. Arcudi, III
Chief Financial Officer
(Principal Financial and Accounting Officer)

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Exhibit Index

Exhibit No.	
10.1	Agreement, dated April 22, 2013, among the Company, Pillar Pharmaceuticals I, L.P. and Pillar Pharmaceuticals II, L.P. (incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K filed on April 23, 2013)
10.2	Agreement, dated April 30, 2013, among the Company Pillar Pharmaceuticals I, L.P., Pillar Pharmaceuticals II, L.P. and Participations Besancon (incorporated by reference to Exhibit 10.50 to the Company s Registration Statement on Form S-1, file number 333-187155, filed on May 1, 2013)
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Pursuant to Rule 406T of Regulation S-T, the Interactive Data Files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

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EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO EXCHANGE ACT RULES 13a-14 AND

15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

I, Sudhir Agrawal, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant s internal control over financial reporting that occurred during the registrant s most recent fiscal quarter (the registrant s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant s internal control over financial reporting; and

5. The registrant s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant s auditors and the audit committee of the registrant s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant s internal control over financial reporting.

Dated: August 14, 2013

/s/ SUDHIR AGRAWAL
Sudhir Agrawal
Chief Executive Officer

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EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO EXCHANGE ACT RULES 13a-14 AND

15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

I, Louis J. Arcudi, III certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant s internal control over financial reporting that occurred during the registrant s most recent fiscal quarter (the registrant s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant s internal control over financial reporting; and

5. The registrant s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant s auditors and the audit committee of the registrant s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant s internal control over financial reporting.

Dated: August 14, 2013

/s/ LOUIS J. ARCUDI, III
Louis J. Arcudi, III
Chief Financial Officer

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EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS

ADOPTED

PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc. (the Company) for the period ended June 30, 2013 as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned, Sudhir Agrawal, Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to Idera Pharmaceuticals, Inc. and will be retained by Idera Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Dated: August 14, 2013

/s/ SUDHIR AGRAWAL
Sudhir Agrawal
Chief Executive Officer

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EXHIBIT 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS

ADOPTED

PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Idera Pharmaceuticals, Inc. (the Company) for the period ended June 30, 2013 as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned, Louis J. Arcudi, III, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to Idera Pharmaceuticals, Inc. and will be retained by Idera Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Dated: August 14, 2013

/s/ LOUIS J. ARCUDI, III
Louis J. Arcudi, III
Chief Financial Officer

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

(RULE 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the

Securities Exchange Act of 1934

(Amendment No.)

Filed by the Registrant x Filed by a Party other than the Registrant ¨

Check the appropriate box:

¨ Preliminary Proxy Statement

¨ **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**

x Definitive Proxy Statement

¨ Definitive Additional Materials

¨ Soliciting Material Pursuant to § 240.14a-12

IDERA PHARMACEUTICALS, INC.

(Name of Registrant as Specified in its Charter)

(Name of Person(s) Filing Proxy Statement, if Other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

x No fee required.

¨ Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

1) Title of each class of securities to which transaction applies:

2) Aggregate number of securities to which transaction applies:

3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

4) Proposed maximum aggregate value of transaction:

5) Total fee paid:

¨ Fee paid previously with preliminary materials.

¨ Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

1) Amount Previously Paid:

2) Form, Schedule or Registration Statement No.:

3) Filing Party:

4) Date Filed:

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IDERA PHARMACEUTICALS, INC.

167 Sidney Street

Cambridge, Massachusetts 02139

NOTICE OF 2013 ANNUAL MEETING OF STOCKHOLDERS

Date and Time:	Friday, July 26, 2013 at 10:00 a.m., local time
Place:	Idera Pharmaceuticals, Inc. 167 Sidney Street Cambridge, Massachusetts 02139
Items of Business:	At our 2013 annual meeting of stockholders we will ask our stockholders to:

- Approve amendments to our Restated Certificate of Incorporation to (a) declassify our board of directors, (b) provide that our stockholders may remove directors with or without cause following declassification of our board of directors and (c) eliminate the supermajority voting requirement for amending or repealing Article ELEVENTH of our Restated Certificate of Incorporation;
- Approve an amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of our common stock from 140,000,000 shares to 280,000,000 shares;
- Approve, by non-binding vote, executive compensation;
- Approve the Idera Pharmaceuticals, Inc. 2013 Stock Incentive Plan;
- Ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2013;
- Elect three directors to our board of directors as named and for the terms indicated in this proxy statement;

Approve the issuance and sale by us to certain affiliates of Pillar Invest Corporation (including our prior issuances and sales of our securities to such affiliates in November 2011 and November 2012) of a number of shares of our common stock (including securities convertible into or exercisable for shares of our common stock) that is greater than 19.99% of the total number of issued and outstanding shares of common stock and of the outstanding voting power of our securities after such issuance and sale in accordance with Nasdaq Listing Rule 5635(b);

Approve amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series D Preferred Stock to:

(a) provide that, if the Nasdaq Proposal, as described below, were approved by our stockholders, the beneficial ownership limitation applicable to our Series D preferred stock would be increased from 19.99% to 35%, consistent with the beneficial ownership limitations applicable to our Series E preferred stock;

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(b) modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the holders of our Series D preferred stock;

(c) modify the dividend provisions of the Series D Certificate of Designations to (i) change the date after which we may elect to pay dividends to the holders of our Series D preferred stock in shares of our common stock in lieu of cash from December 31, 2014 to October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series D Certificate of Designations; and

(d) (i) eliminate the provision of the Series D Certificate of Designations that had provided the holders of our Series D preferred stock with the right to require us to redeem the Series D preferred stock upon the occurrence of specified fundamental changes and provide, in the event of a sale of the corporation (as defined the Series D Certificate of Designations), for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock and (ii) modify the Series D Certificate of Designations to eliminate the right of the holders of our Series D preferred stock to receive, in the event of a liquidation, dissolution or winding up of our company, or Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of our Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation;

Approve amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series E Preferred Stock to:

(a) modify the dividend provisions of the Series E Certificate of Designations to (i) permit us to elect to pay dividends to the holders of our Series E preferred stock in shares of our common stock in lieu of cash commencing October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such

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dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series E Certificate of Designations; and

(b) modify the Series E Certificate of Designations to eliminate the right of the holders of our Series E preferred stock to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of our Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation; and

Transact any other business as may properly come before the 2013 annual meeting or any postponement or adjournment of the 2013 annual meeting.

The board of directors has no knowledge of any other business to be transacted at the 2013 annual meeting.

Record Date: You may vote at the 2013 annual meeting if you were a stockholder of record at the close of business on June 3, 2013.

Proxy Voting: It is important that your shares be represented and voted at the annual meeting. Whether or not you plan to attend the 2013 annual meeting, please mark, sign, date and promptly mail your proxy card in the enclosed postage-paid envelope or follow the instructions on the proxy card to vote by telephone or over the internet. You may revoke your proxy at any time before its exercise at the 2013 annual meeting.

By order of the board of directors,
Louis J. Arcudi, III
Secretary
Cambridge, Massachusetts
June 10, 2013

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IDERA PHARMACEUTICALS, INC.

167 Sidney Street

Cambridge, Massachusetts 02139

PROXY STATEMENT

For our Annual Meeting of Stockholders to be held on July 26, 2013

Idera Pharmaceuticals, Inc., a Delaware corporation, which is referred to as we, us, the Company or Idera in this proxy statement, is sending yo this proxy statement and the enclosed proxy card because our board of directors is soliciting your proxy to vote at our 2013 annual meeting of stockholders. The 2013 annual meeting will be held on Friday, July 26, 2013, at 10:00 a.m., local time, at our principal offices located at 167 Sidney Street, Cambridge, Massachusetts 02139. If the 2013 annual meeting is adjourned for any reason, then proxies submitted may be used at any adjournments of the 2013 annual meeting.

This proxy statement summarizes information about the proposals to be considered at the 2013 annual meeting and other information you may find useful in determining how to vote. The proxy card is the means by which you actually authorize another person to vote your shares in accordance with your instructions.

We are mailing this proxy statement and the enclosed proxy card to stockholders on or about June 13, 2013.

In this mailing, we are also including copies of our annual report to stockholders for the year ended December 31, 2012. Our annual report on Form 10-K for the year ended December 31, 2012, as filed with the Securities and Exchange Commission, or the SEC, on March 11, 2013, including our audited financial statements, is included in our annual report to stockholders and is also available free of charge on our website, www.iderapharma.com, where it can be accessed by clicking Investors and then SEC Filings, or through the SEC s electronic data system at www.sec.gov. **To request a printed copy of our Notice of Annual Meeting, Proxy Statement and Annual Report on Form 10-K, which we will provide to you free of charge, or to obtain directions to be able to attend the 2013 annual meeting and vote in person, write to Investor Relations, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139, call our toll-free number 1 (877) 888-6550, or email Investor Relations at ir@iderapharma.com.**

Important Notice Regarding the Availability of

Proxy Materials for the 2013 Annual Meeting

to Be Held on July 26, 2013:

The Notice of Annual Meeting, Proxy Statement and 2012 Annual Report are available at http://ir.iderapharma.com/phoenix.zhtml?c=208904&p=proxy.

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INFORMATION ABOUT THE 2013 ANNUAL MEETING

Who may vote?

Holders of record of our common stock and our Series D redeemable convertible preferred stock, or Series D preferred stock, at the close of business on June 3, 2013, the record date for the 2013 annual meeting, are entitled to vote on each matter properly brought before the 2013 annual meeting. Except where expressly stated otherwise in this proxy statement, holders of our common stock and our Series D preferred stock will vote together as a single class. Except where expressly stated otherwise in this proxy statement, holders of our Series E convertible preferred stock, or Series E preferred stock, are not entitled to vote at the 2013 annual meeting. Holders of our common stock will be entitled to one vote for each share of common stock held as of the record date. Holders of our Series D preferred stock will be entitled to cast a number of votes equal to the number of whole shares of common stock into which the shares of Series D Preferred Stock held by such holder are convertible as of the record date (rounded down to the nearest whole share). As of the record date, each share of Series D preferred stock is convertible into 5.5736 shares of common stock. On any matter set forth in this proxy statement in which the holders of our Series E preferred stock are entitled to vote, holders of our Series E preferred stock will be entitled to one vote for each share of Series E preferred stock held as of the record date. As of the close of business on June 3, 2013, the record date for the 2013 annual meeting, we had shares of 45,165,160 common stock outstanding, 1,124,260 shares of Series D preferred stock outstanding and 424,242 shares of Series E preferred stock outstanding.

How do I vote my shares if I am a stockholder of record?

If you are a stockholder of record (meaning that you hold shares in your name in the records of our transfer agent, Computershare Trust Company, N.A., and that your shares are not held in street name by a bank or brokerage firm), you may vote your shares in any one of the following ways:

You may vote by mail. To vote by mail, you need to complete, date and sign the proxy card that accompanies this proxy statement and promptly mail it in the enclosed postage-prepaid envelope. You do not need to put a stamp on the enclosed envelope if you mail it from within the United States.

You may vote by telephone. To vote by telephone through services provided by Computershare Trust Company, N.A., call 1-800-652-VOTE (8683), and follow the instructions provided on each proxy card. If you vote by telephone, you do not need to complete and mail your proxy card.

You may vote over the internet. To vote over the internet through services provided by Computershare Trust Company, N.A., please go to the following website: http://www.investorvote.com/IDRA and follow the instructions at that site for submitting your proxy card. If you vote over the internet, you do not need to complete and mail your proxy card.

You may vote in person. If you attend the 2013 annual meeting, you may vote by delivering your completed proxy card in person or you may vote by completing a ballot at the 2013 annual meeting. Ballots will be available at the 2013 annual meeting.

Your proxy will only be valid if you complete and return the proxy card, vote by telephone or vote over the internet at or before the 2013 annual meeting. The persons named in the proxy card will vote the shares you own in accordance with your instructions on your proxy card, in your vote by telephone or in your vote over the internet. If you return the proxy card, vote by telephone or vote over the internet, but do not give any instructions on a particular matter described in this proxy statement, the persons named in the proxy card will vote the shares you own in accordance with the recommendations of our board of directors.

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How do I vote my shares if I hold them in street name?

If the shares you own are held in street name by a bank or brokerage firm, your bank or brokerage firm, as the record holder of your shares, is required to vote your shares according to your instructions. In order to vote your shares, you will need to follow the directions that your bank or brokerage firm provides to you. Many banks and brokerage firms solicit voting instructions over the internet or by telephone.

Under applicable stock exchange rules, bank or brokerage firms that hold shares in street name for customers have the discretion to vote those shares with respect to certain matters if they have not received instructions from the beneficial owners. Bank or brokerage firms will have this discretionary authority with respect to routine matters such as the ratification of the selection of our independent registered public accounting firm; however, they will not have this discretionary authority with respect to any of the other matters scheduled to be voted upon at the 2013 annual meeting. As a result, with respect to all matters other than ratification of the selection of our independent registered public accounting firm, if the beneficial owners have not provided instructions with respect to that matter, those beneficial owners shares will be considered broker non-votes. Broker non-votes are shares with respect to which a bank or brokerage firm does not receive voting instructions from the beneficial holder and does not have or exercise discretionary authority in voting on a proposal. The effect of broker non-votes is discussed below in the answer to the question What vote is required to approve each matter and how will votes be counted? .

Regardless of whether your shares are held in street name, you are welcome to attend the 2013 annual meeting. If your shares are held in street name, you may not vote your shares in person at the 2013 annual meeting unless you obtain a proxy, executed in your favor, from the holder of record (i.e., your brokerage firm or bank). If you hold your shares in street name and wish to vote in person, please contact your brokerage firm or bank before the 2013 annual meeting to obtain the necessary proxy from the holder of record.

How may I change or revoke my vote?

If you are a stockholder of record, even if you complete and return a proxy card or vote by telephone or over the internet, you may change or revoke your vote at any time before your proxy is exercised by taking one of the following actions:

- send written notice to our Secretary, Louis J. Arcudi, III, at our address above, stating that you wish to revoke your vote;
- deliver to us another signed proxy card with a later date or vote by telephone or over the internet at a later date; or
- attend the 2013 annual meeting, notify our Secretary that you are present and then vote by ballot.

If you own shares in street name, your bank or brokerage firm should provide you with instructions for changing or revoking your vote.

What constitutes a quorum?

In order for business to be conducted at the 2013 annual meeting, a quorum must be present. A quorum consists of the holders of shares of capital stock representing a majority of the combined voting power of our common stock and our Series D preferred stock that is issued, outstanding and entitled to vote at the 2013 annual meeting.

Shares of voting stock present in person or represented by proxy (including broker non-votes and shares that are abstained or withheld or with respect to which no voting instructions are provided for one or more of the matters to be voted upon) will be counted for the purpose of determining whether a quorum exists.

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If a quorum is not present, the 2013 annual meeting will be adjourned until a quorum is obtained.

What vote is required to approve each matter and how will votes be counted?

The table below sets forth the vote required for each matter being submitted to our stockholders at the 2013 annual meeting to be approved and the effect that withheld votes, abstentions and broker non-votes will have on the outcome of voting on each proposal that is being submitted to our stockholders for approval at the 2013 annual meeting.

Proposal	Affirmative Vote Required	Abstentions/ Withholds	Broker Non-Votes
Amendments to Restated Certificate of Incorporation to Declassify Board of Directors *(Proposals 1(a), 1(b) and 1(c))*	At least 75% of issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis	Has the same effect as a vote AGAINST	Has the same effect as a vote AGAINST
Amendments to Restated Certificate of Incorporation to Increase Number of Authorized Shares of Common Stock *(Proposal 2)*	Majority of issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis	Has the same effect as a vote AGAINST	Has the same effect as a vote AGAINST
Advisory Vote on Executive Compensation *(Proposal 3)*	Majority of common stock and Series D preferred stock present or represented and voting on the matter, voting together as a single class and on an as-converted basis	No effect	No effect
Approval of 2013 Stock Incentive Plan *(Proposal 4)*	Majority of common stock and Series D preferred stock present or represented and voting on the matter, voting together as a single class and on an as-converted basis	No effect	No effect
Ratification of Selection of Ernst & Young LLP *Proposal 5)*	Majority of common stock and Series D preferred stock present or represented and voting on the matter, voting together as a single class and on an as-converted basis	No effect	No effect
Election of Directors *(Proposal 6)*	Plurality of votes cast by holders of common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis	No effect(1)	No effect

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Approval of Prior Issuances and Sales to Pillar and its Affiliates *(Proposal 7)*	Majority of outstanding common stock and Series D preferred stock present or represented and voting on the matter, voting together as a single class and on an as-converted basis	No effect	No effect
	Holders (other than us, Pillar Invest Corporation and their respective affiliates) of a majority of issued and outstanding common stock and Series D preferred stock entitled to vote and held by such holders, voting together as a single class and on an as-converted basis		
Amendments to Certificate of Designations, Preferences and Rights of Series D Preferred Stock *(Proposals 8(a), 8(b), 8(c) and 8(d))*	Majority of issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis	Has the same effect as a vote AGAINST	Has the same effect as a vote AGAINST
	Majority of issued and outstanding Series D preferred stock entitled to vote, voting separately as a series		
Amendments to Certificate of Designations, Preferences and Rights of Series E Preferred Stock *(Proposals 9(a) and 9(b))*	Majority of issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis	Has the same effect as a vote AGAINST	Has the same effect as a vote AGAINST
	Majority of issued and outstanding Series E preferred stock entitled to vote, voting separately as a series		

(1) You may vote FOR all of the director nominees, WITHHOLD your vote from all of the director nominees or WITHHOLD your vote from any of the director nominees.

Each share of common stock will be counted as one vote. Holders of our Series D preferred stock will be entitled to cast a number of votes equal to the number of whole shares of common stock into which the shares of Series D preferred stock held by such holder are convertible as of the record date (rounded down to the nearest whole share). As of the record date, each share of Series D preferred stock is convertible into 5.5736 shares of common stock. Except where expressly stated otherwise in this proxy statement (see Proposal Nine), holders of our Series E preferred stock are not entitled to vote at the 2013 annual meeting. On any matter set forth in this proxy statement in which the holders of our Series E preferred stock are entitled to vote, holders of our Series E preferred stock will be entitled to one vote for each share of Series E preferred stock held as of the record date

How does the board of directors recommend that I vote?

Our board of directors recommends that you vote as follows:

FOR Proposal One, Proposal Two, Proposal Three, Proposal Four, Proposal Five, Proposal Seven, Proposal Eight and Proposal Nine; and

To elect the three nominees to our board of directors (Proposal Six).

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Under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and related SEC regulations, the vote on executive compensation, as described in greater detail in Proposal Three set forth elsewhere in this proxy statement, is an advisory vote, meaning it is non-binding. The vote on the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm is also advisory. Our board will carefully consider the outcome of each of these votes.

Will any other business be conducted at the 2013 annual meeting of stockholders?

Our board of directors does not know of any other business to be conducted or matters to be voted upon at the 2013 annual meeting. If any other matter properly comes before the 2013 annual meeting, the persons named in the proxy card that accompanies this proxy statement will exercise their judgment in deciding how to vote or otherwise act with respect to that matter at the 2013 annual meeting.

Who is making and paying for the solicitation of proxies and how is it made?

We are making the solicitation and will bear the costs of soliciting proxies. In addition to solicitations by mail, our directors, officers and regular employees, without additional remuneration, may solicit proxies by telephone, facsimile, email, personal interviews and other means. We may retain a proxy solicitation firm to assist in the solicitation of proxies in connection with the 2013 annual meeting. In that event, we will pay such firm customary fees, which we expect would be approximately $10,000, plus expenses. We have requested that brokerage houses, custodians, nominees and fiduciaries forward copies of the proxy materials to the persons for whom they hold shares and request instructions for voting the proxies. We will reimburse the brokerage houses and other persons for their reasonable out-of-pocket expenses in connection with this distribution.

How and when may I submit a proposal for the 2014 annual meeting of stockholders?

If you are interested in submitting a proposal for inclusion in the proxy statement and the proxy card for our 2014 annual meeting, you need to follow the procedures outlined in Rule 14a-8 of the Exchange Act. We must receive your proposal intended for inclusion in the proxy statement at our principal executive offices, 167 Sidney Street, Cambridge, Massachusetts 02139, Attention: Secretary, no later than February 13, 2014. SEC rules set standards for the types of stockholder proposals and the information that must be provided by the stockholder making the request.

If you wish to present a proposal at the 2014 annual meeting, but do not wish to have the proposal considered for inclusion in the proxy statement and proxy card or have not complied with the requirements for inclusion of such proposal in our proxy statement under SEC rules, you must also give written notice to us at the address noted above. Our bylaws specify the information that must be included in any such notice, including a brief description of the business to be brought before the annual meeting, the name of the stockholder proposing such business and stock ownership information for such stockholder. In accordance with our bylaws, we must receive this notice at least 60 days, but not more than 90 days, prior to the date of the 2014 annual meeting and the notice must include specified information regarding the proposal and the stockholder making the proposal.

Notwithstanding the foregoing, if we provide less than 70 days notice or prior public disclosure of the date of the annual meeting to the stockholders, notice by the stockholders must be received by our Secretary no later than the close of business on the tenth day following the date on which the notice of the annual meeting was mailed or such public disclosure was made, whichever occurs first. If a stockholder who wished to present a proposal fails to notify us by this date, the proxies that management solicits for that meeting will have discretionary authority to vote on the stockholder s proposal if it is otherwise properly brought before that meeting. If a stockholder makes timely notification, the proxies may still exercise discretionary authority to vote on stockholder proposals under circumstances consistent with the SEC s rules.

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Are annual meeting materials householded?

Some banks, brokers and other nominee record holders may be participating in the practice of householding proxy statements and annual reports. This means that the brokers and nominee record holders send only one copy of this proxy statement and the accompanying annual report to multiple stockholders in the same household. Upon request, we will promptly deliver separate copies of this proxy statement and our annual report. To make such a request, please call (617) 679-5500 or write to Investor Relations, 167 Sidney Street, Cambridge, Massachusetts 02139 or ir@iderapharma.com. To receive separate copies of our annual report and proxy statement in the future, or to receive only one copy for the household, please contact your bank, broker, or other nominee record holder, or contact us at the above address and phone number.

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PROPOSAL ONE

APPROVAL OF AMENDMENTS TO OUR RESTATED CERTIFICATE OF INCORPORATION TO DECLASSIFY OUR BOARD OF DIRECTORS

Under our Restated Certificate of Incorporation, our board of directors is currently divided into three classes, with members of each class holding office for staggered three-year terms. We are asking you to approve amendments to our Restated Certificate of Incorporation to (a) declassify our board of directors, (b) provide that our stockholders may remove directors with or without cause following declassification of our board of directors and (c) eliminate the supermajority voting requirement for amending or repealing Article ELEVENTH of our Restated Certificate of Incorporation. The board of directors believes that these changes are advisable and in the best interests of our stockholders. The board of directors has unanimously approved the proposed amendments and declared them to be advisable, and recommends that our stockholders approve the proposed amendments.

If the proposed amendments to our Restated Certificate of Incorporation described in this Proposal One are approved by the stockholders, the declassification of our board of directors would be phased in commencing with the 2013 annual meeting and would result in the classified board of directors being fully phased-out (and all board members standing for annual elections) commencing with our 2015 annual meeting of stockholders. Therefore, the Class III directors would be elected at the 2013 annual meeting for one-year terms, the Class III and Class I directors would stand for election at our 2014 annual meeting of stockholders for one-year terms (with the Class II directors having one year remaining in their term), and beginning with our 2015 annual meeting of stockholders, the board will be completely declassified and all directors will stand for election for one-year terms. If the proposed amendments are not approved in the manner described in this Proposal One, no changes will be made to our Restated Certificate of Incorporation under this Proposal One.

Proposals 1(a), 1(b) and 1(c) all relate to the proposed declassification of our board of directors, but each proposal concerns a different amendment to our Restated Certificate of Incorporation. We are submitting these amendments to our stockholders as separate items so that our stockholders are able to express their views on each amendment separately. The approval of Proposals 1(a) and 1(b) is conditioned upon both items receiving the requisite stockholder vote. The approval of Proposal 1(c) is conditioned on the approval of both Proposals 1(a) and 1(b), but Proposals 1(a) and 1(b) are not conditioned on Proposal 1(c). Therefore:

- If Proposals 1(a), 1(b) and 1(c) each receive the requisite stockholder vote, then our Restated Certificate of Incorporation will be amended to reflect all of the revisions set forth in Appendix A to this proxy statement, and a Certificate of Amendment to our Restated Certificate of Incorporation reflecting the amendments will be filed with the Secretary of State of the State of Delaware immediately following the vote and during the 2013 annual meeting.

- If Proposals 1(a) and 1(b) each receive the requisite stockholder vote, but Proposal 1(c) does not, then our Restated Certificate of Incorporation will be amended to reflect the corresponding revisions set forth in Appendix A to this proxy statement, and a Certificate of Amendment to our Restated Certificate of Incorporation reflecting the approved amendments will be filed with the Secretary of State of the State of Delaware immediately following the vote and during the 2013 annual meeting.

- If either Proposal 1(a) or 1(b) does not receive the requisite stockholder vote (regardless of the outcome of Proposal 1(c)), then no changes will be made to our Restated Certificate of Incorporation under this Proposal One, and our board will continue to be classified.

For each of Proposal 1(a), 1(b) and 1(c), the affirmative vote of at least 75% of the issued and outstanding shares of our common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, is required to amend our Restated Certificate of Incorporation. Our board of directors reserves the right, at any time prior to the effectiveness of the filing of the Certificate of Amendment reflecting the approved amendments, to abandon the proposed amendments.

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The following description of the proposed amendments to our Restated Certificate of Incorporation is a summary and is qualified by the full text of the proposed amendments, which are attached to this proxy statement as Appendix A.

Proposal 1(a): Proposed amendment to our Restated Certificate of Incorporation to declassify our board of directors

Restated Certificate of Incorporation sections affected: Sections 2, 4, 5 and 8 of Article ELEVENTH

Our board of directors and our nominating and corporate governance committee regularly review our corporate governance policies and practices. As part of our nominating and corporate governance committee s continuing review, it discussed the potential declassification of the board of directors and moving to annual elections of all directors. In connection with our Series E preferred stock financing, which is described in greater detail in the section titled Summary of November 2011 and November 2012 Preferred Stock Financing Transactions set forth in Proposal Seven set forth elsewhere in this proxy statement and in Transactions with Related Persons set forth elsewhere in this proxy statement, we agreed to submit a proposal to our stockholders at the 2013 annual meeting to, among other things, approve an amendment to our Restated Certificate of Incorporation and bylaws to declassify our board of directors.

In deciding whether to recommend that stockholders vote in favor of this proposal, our nominating and corporate governance committee, as well as the full board of directors, considered the advantages of both a classified and declassified board structure. A classified board can promote continuity and enhance the stability of the board of directors, encourage a long-term perspective of management and reduce a company s vulnerability to coercive takeover tactics. Having experienced directors on the board of directors is important because of the unique demands of overseeing our company, including the need to understand the complexities of our business and our long-term strategy for profitable growth. The directors also considered that many investors and commentators believe that the election of directors is the primary means for stockholders to influence corporate governance policies and hold management accountable for implementing those policies. The directors recognized that many investors believe that a classified board structure reduces the accountability of directors to stockholders because the directors do not face an annual election. The directors determined that the advantages to our stockholders of annual director elections for all directors outweigh the advantages of a classified board. After weighing these and other considerations, our nominating and corporate governance committee determined that moving to annual elections of directors is in the best interests of Idera and our stockholders and recommended to the board of directors that it support the proposal to declassify the board of directors. After deliberation, the board of directors unanimously accepted that recommendation. If this proposed amendment is not approved, no changes will be made to our Restated Certificate of Incorporation under this Proposal One.

This proposed amendment is conditioned on the approval of Proposal 1(b) by the stockholders.

Approval of this Proposal 1(a) will also constitute stockholder approval of conforming changes to Sections 2.3, 2.4, 2.5 and 2.6 of our bylaws, as reflected in Appendix B.

Recommendation of the Board of Directors and Required Vote

Our board of directors believes that the proposed amendment to our Restated Certificate of Incorporation to declassify our board of directors is in the best interests of our company and our stockholders and therefore recommends that the stockholders vote FOR this proposal.

The affirmative vote of the stockholders holding at least 75% of the issued and outstanding shares of our common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, is required for approval of this Proposal 1(a).

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Proposal 1(b): Proposed amendment to our Restated Certificate of Incorporation to provide that our stockholders may remove our directors with or without cause following declassification of our board of directors

Restated Certificate of Incorporation sections affected: Section 7 of Article ELEVENTH

Delaware corporate law provides that members of a classified board of directors may be removed only for cause, unless otherwise provided in the certificate of incorporation. Our Restated Certificate of Incorporation currently provides that our directors can be removed only for cause by the affirmative vote of at least two-thirds of the shares of our capital stock outstanding and entitled to vote.

If the proposed amendment is approved by our stockholders at the 2013 annual meeting, our Restated Certificate of Incorporation would be amended to provide that, effective immediately after our 2015 annual meeting of stockholders, when our board of directors is no longer classified, directors may be removed with or without cause by the affirmative vote of a majority of our common stock issued and outstanding and entitled to vote, as set forth in Appendix A. Even if this amendment is approved, our directors would continue to be removable only for cause until our 2015 annual meeting of stockholders, at which point our board of directors will no longer be classified. If the proposed amendment is not approved, no changes will be made to our Restated Certificate of Incorporation under this Proposal One.

This proposed amendment is conditioned on the approval of Proposal 1(a) by the stockholders.

Approval of this Proposal 1(b) will also constitute stockholder approval of conforming changes to Section 2.15 of our bylaws, as reflected in Appendix B.

Recommendation of the Board of Directors and Required Vote

Our board of directors believes that the proposed amendment to our Restated Certificate of Incorporation to provide that our stockholders may remove our directors with or without cause by the affirmative vote of a majority of our common stock issued and outstanding and entitled to vote following declassification of our board of directors is in the best interests of our company and our stockholders and therefore recommends that the stockholders vote FOR this proposal.

The affirmative vote of the stockholders holding at least 75% of the issued and outstanding shares of our common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, is required for approval of this Proposal 1(b).

Proposal 1(c): Proposed amendment to our Restated Certificate of Incorporation to eliminate the supermajority voting requirement for amending or repealing Article ELEVENTH of our Restated Certificate of Incorporation

Restated Certificate of Incorporation sections affected: Section 10 of Article ELEVENTH

Our Restated Certificate of Incorporation currently provides that the affirmative vote of at least 75% of the shares of our capital stock issued and outstanding and entitled to vote is required to amend or repeal, or to adopt any provision inconsistent with, Article ELEVENTH of our Restated Certificate of Incorporation. The proposed amendment would eliminate this supermajority voting requirement. This proposed amendment is conditioned on the approval of Proposals 1(a) and 1(b) by the stockholders.

The current supermajority provision in Article ELEVENTH was originally adopted to preserve the classified structure of our board of directors and is, in the board of directors view, no longer necessary if the board of directors is declassified pursuant to stockholder approval of Proposals 1(a) and 1(b).

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If Proposal 1(c) is approved by the stockholders, and Proposals 1(a) and 1(b) are also approved, the relevant voting requirement to amend or repeal Article ELEVENTH of our Restated Certificate of Incorporation in the future would be a majority of the outstanding stock entitled to vote thereon. If Proposal 1(c) is not approved, or if Proposals 1(a) and 1(b) are not approved, the relevant voting requirement to amend or repeal Article ELEVENTH in the future will remain at least 75% of the shares of our capital stock issued and outstanding and entitled to vote.

Recommendation of the Board of Directors and Required Vote

Our board of directors believes that the proposed amendment to our Restated Certificate of Incorporation to eliminate the supermajority voting requirement for amending or repealing Article ELEVENTH of our Restated Certificate of Incorporation is in the best interests of our company and our stockholders and therefore recommends that the stockholders vote FOR this proposal.

The affirmative vote of the stockholders holding at least 75% of the issued and outstanding shares of our common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, is required for approval of this Proposal 1(c).

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PROPOSAL TWO

APPROVAL OF AN AMENDMENT TO OUR RESTATED CERTIFICATE OF INCORPORATION TO INCREASE THE NUMBER OF AUTHORIZED SHARES OF COMMON STOCK

In May 2013, our board of directors voted to recommend to the stockholders that they approve an amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of our common stock from 140,000,000 shares to 280,000,000 shares. A copy of a Certificate of Amendment to the Restated Certificate of Incorporation setting forth the amendment is attached to this proxy statement as Appendix C. As of May 15, 2013, we had authorized, outstanding or reserved for issuance the following shares of common stock:

- 45,163,330 shares of common stock outstanding;
- 1,926 shares of common stock reserved for issuance upon conversion of our Series A convertible preferred stock;
- 6,266,175 shares of common stock reserved for issuance upon conversion of our Series D preferred stock;
- 8,484,840 shares of common stock reserved for issuance upon conversion of our Series E preferred stock;
- 64,056,546 shares of common stock reserved for issuance upon exercise of outstanding warrants;
- 5,358,395 shares of common stock reserved for issuance upon exercise of outstanding stock options; and
- 2,642,303 shares of common stock reserved for future issuance under our 2008 Stock Incentive Plan and our 1995 Employee Stock Purchase Plan.

Our board of directors believes that the authorization of the additional shares of common stock is necessary to provide us with the flexibility to issue shares of common stock in connection with possible future financings, joint ventures, acquisitions, stock incentive plans and other general corporate purposes. We do not currently have any plans, understandings, arrangements, commitments or agreements, written or oral, for the issuance of the additional shares of common stock that would be authorized if this proposal is approved.

If this proposal to amend our Restated Certificate of Incorporation to increase the number of authorized shares of common stock is approved by the stockholders at the 2013 annual meeting, our board of directors will have authority to issue these additional shares of common stock without the necessity of further stockholder action. Holders of shares of our common stock have no preemptive rights with respect to any shares that may be issued in the future.

If this proposal is approved by our stockholders at the 2013 annual meeting, we intend to file the Certificate of Amendment promptly following the 2013 annual meeting reflecting the approved increase in the number of authorized shares of common stock.

Recommendation of the Board of Directors and Required Vote

Our board of directors believes that approval of the amendment to the Restated Certificate of Incorporation as set forth in the Certificate of Amendment attached to this proxy as Appendix C is in the best interests of our company and our stockholders and therefore recommends that stockholders vote FOR the approval of the amendment.

The affirmative vote of the stockholders holding a majority of the issued and outstanding shares of our common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, is required for approval of this Proposal Two.

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PROPOSAL THREE

APPROVAL, BY NON-BINDING VOTE, OF EXECUTIVE COMPENSATION

We are providing our stockholders the opportunity to vote to approve, on an advisory, non-binding basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with the SEC s rules. This proposal, which is commonly referred to as say-on-pay, is required by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which added Section 14A to the Exchange Act.

Our compensation committee seeks to achieve the following broad goals in connection with our executive compensation programs and decisions regarding individual compensation:

- attract, retain and motivate the best possible executive talent;
- ensure executive compensation is aligned with our corporate strategies and business objectives, including our short-term operating goals and longer-term strategic objectives;
- promote the achievement of key strategic and financial performance measures by linking short- and long-term cash and equity incentives to the achievement of measurable corporate and individual performance goals; and
- align executives incentives with the creation of stockholder value.

Our compensation program for our executives generally consists of five elements based upon the foregoing objectives:

- base salary;
- annual cash bonuses;
- stock option awards;
- health care, life insurance and other employee benefits; and
- severance and change in control benefits.

The value of our variable, performance-based compensation is split between short-term compensation in the form of a cash bonus and long-term compensation in the form of stock option awards that vest over time from the time of the grant of the option awards and from the time of achievement of performance milestones. The annual cash bonus is intended to provide an incentive to our executives to achieve near-term operational objectives. The stock option awards provide an incentive for our executives to achieve longer-term strategic business goals, which should lead to higher stock prices and increased stockholder value.

The Executive Compensation section set forth elsewhere in this proxy statement, including Compensation Discussion and Analysis, describes in detail our executive compensation programs and the decisions made by the compensation committee and the board of directors with respect to the fiscal year ended December 31, 2012.

Our board of directors is asking stockholders to approve a non-binding advisory vote on the following resolution:

RESOLVED, that the compensation paid to the company s named executive officers, as disclosed pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the compensation discussion and analysis, the compensation tables and any related material disclosed in this proxy statement, is hereby approved.

As an advisory vote, this proposal is not binding. The outcome of this advisory vote will not overrule any decision by the Company or our board of directors (or any committee thereof), create or imply any change to our

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fiduciary duties or the fiduciary duties of our board of directors (or any committee thereof), or create or imply any additional fiduciary duties on us or our board of directors (or any committee thereof). However, our compensation committee and board of directors value the opinions expressed by our stockholders in their vote on this proposal and will consider the outcome of the vote when making future compensation decisions for named executive officers.

Recommendation of the Board of Directors and Required Vote

Our board of directors recommends that stockholders vote to approve the compensation of our named executive officers by voting FOR this proposal.

The affirmative vote of the stockholders holding a majority of the issued and outstanding shares of our common stock and Series D preferred stock present in person or represented by proxy and voting on the matter, voting together as a single class and on an as-converted basis, is required for approval of this Proposal Three.

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EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

Executive Summary

The compensation committee of our board of directors is responsible for establishing compensation policies with respect to our executive officers, including our chief executive officer and our other executive officers who are listed in the Summary Compensation table below and who we refer to as named executive officers. Our compensation committee makes compensation decisions relating to our executive officers after consultation with our board of directors.

This section discusses the principles underlying our executive compensation policies and decisions and the most important factors relevant to an analysis of these policies and decisions. It provides qualitative information regarding the manner and context in which compensation is awarded to and earned by our named executive officers. As further discussed in this section, our compensation and benefit programs help us attract, retain and motivate individuals who will maximize our business results by working to meet or exceed established company or individual objectives. In addition, we reward our executive officers for meeting certain developmental milestones, such as completing advancements in product candidate development, strategic partnerships or other financial transactions that add to our capital resources or create value for stockholders. We also decline to increase salaries, make bonus awards or issue equity compensation in the event that our corporate performance falls below expectations or developmental milestones are not met.

Compensation Philosophy and Objectives

The compensation committee seeks to achieve the following broad goals in connection with our executive compensation programs and decisions regarding individual compensation:

- attract, retain and motivate the best possible executive talent;
- ensure executive compensation is aligned with our corporate strategies and business objectives, including our short-term operating goals and longer-term strategic objectives;
- promote the achievement of key strategic and financial performance measures by linking short- and long-term cash and equity incentives to the achievement of measurable corporate and individual performance goals; and
- align executives incentives with the creation of stockholder value.

To achieve these objectives, the compensation committee evaluates our executive compensation program with the goal of setting compensation at levels the committee believes are competitive with those of other companies in our industry and our region that compete with us for executive talent. In addition, our executive compensation program ties a substantial portion of each executive officer s overall compensation to key strategic, financial, research and operational goals such as clinical trial and regulatory progress, intellectual property portfolio development, establishment and maintenance of key strategic relationships and exploration of business development opportunities, as well as our financial and operational performance. We also provide a portion of our executive compensation in the form of stock options or other stock awards that vest over time from the time of the grant of the option awards and from the time of achievement of performance milestones, which we believe helps to retain our executives and align their interests with those of our stockholders by allowing them to participate in the longer term success of our company as reflected in stock price appreciation.

During 2011 and 2012, our compensation committee engaged Radford Surveys + Consulting, or Radford, to provide advice and recommendations regarding the amount and form of executive compensation, equity incentive programs and compensation generally. Radford did not provide any services to our company during 2011 or 2012 other than pursuant to its engagement by the compensation committee.

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As part of its engagement in November 2010, Radford provided data on executive compensation from a peer group of publicly traded companies developed by the committee with Radford in November 2010. The committee selected these companies at that time in the belief that these companies had business life cycles, growth profiles, market capitalizations, products, research and development investment levels and number/capabilities of employees that were then comparable to ours. In working with Radford to develop the peer group, the committee and Radford generally targeted companies ranging from one-third to three times Idera s size in terms of number of employees and market capitalization, with lead drug candidates typically in Phase 2 or Phase 3. The companies included in the peer group were:

Achillion Pharmaceuticals, Inc.	Anadys Pharmaceuticals, Inc.	ARIAD Pharmaceuticals, Inc.
ArQule, Inc.	AVI BioPharma, Inc.	BioCryst Pharmaceuticals, Inc.
Celldex Therapeutics, Inc.	Cyclacel Pharmaceuticals, Inc.	Cytokinetics, Incorporated
CytRx Corp.	Dynavax Technologies Corp.	GenVec, Inc.
Infinity Pharmaceuticals, Inc.	Micromet, Inc.	Myrexis, Inc.
Novavax, Inc.	Peregrine Pharmaceuticals, Inc.	Sangamo BioSciences, Inc.
Synta Pharmaceuticals Corp.		

In November 2010, Radford also provided compensation survey data from the Radford Global Life Science Survey, a survey of U.S. biotech companies. Our compensation committee reviews a blend of the peer group and survey data in its determinations regarding executive compensation. We refer to this blended data as the market compensation data.

Our compensation committee considered this blended data in December 2010 in connection with the establishment of base salaries for our named executive officers in 2011 and in December 2011 in connection with its determination of option grants for our named executive officers in December 2011 and January 2012.

Our compensation committee intends that if we achieve our corporate goals and the executive performs at the level expected, then the executive should have the opportunity to receive compensation that is competitive with industry norms. Accordingly, our compensation committee generally targets overall compensation for executives towards the 50th percentile of the market compensation data. However, the compensation committee from time to time targets a different percentile for individual elements of compensation or specific individuals based on experience, performance levels and potential performance levels of the executive and changes in duties and responsibilities.

In order to accomplish its objectives consistent with its philosophy for executive compensation, our compensation committee typically takes the following actions annually:

- reviews executive officer performance;
- reviews all components of executive officer compensation, including base salary, cash bonuses, equity compensation, the dollar value to the executive and cost to us of all health and life insurance and other employee benefits and the estimated payout obligations under severance and change in control scenarios;
- seeks input from our chief executive officer on the performance of all other executive officers;
- consults with an independent compensation consultant;

holds executive sessions (without our management present);

reviews information regarding the performance and executive compensation of other companies; and

reviews all of the foregoing with the board of directors.

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Under our annual performance review program for our executives, annual performance goals are determined for our company as a whole and for each executive individually. Annual corporate goals are proposed by management and approved by the compensation committee. These corporate goals target the achievement of specific research, clinical, operational and financial milestones.

Annual individual goals focus on contributions that facilitate the achievement of the corporate goals and are closely aligned with the corporate goals. Individual goals are proposed by each executive and approved by the chief executive officer. Typically, the compensation committee sets the chief executive officer s goals and reviews and discusses with the chief executive officer the goals for all other executive officers. The individual performance goals of each named executive officer consist primarily of the key objectives and goals from our annual business plan that relate to the functional area for which the named executive officer is responsible. The individual performance goals for the chief executive officer are largely coextensive with the corporate goals.

Generally, at the end of each year, the compensation committee evaluates corporate and individual performance. The compensation committee considers the achievement of the corporate goals and individual performance as factors in determining annual salary increases, annual bonuses and annual stock option awards granted to our executives, although because of their high level of responsibility within our company, the determination of annual bonuses for our executive officers, including our named executive officers, is heavily weighted on our corporate performance. In assessing corporate performance, the committee evaluates corporate performance alongside the approved corporate goals for the year and also evaluates other aspects of corporate performance, including achievements and progress made by us outside of the corporate goals. In assessing individual performance, the compensation committee evaluates corporate performance in the areas of each officer s responsibility and relies on the chief executive officer s evaluation of each officer. The chief executive officer prepares evaluations of the other executives and in doing so compares individual performance to the individual performance goals. The chief executive officer recommends annual executive salary increases, annual stock option awards and bonuses, if any, which are then reviewed and approved by the compensation committee. In the case of the chief executive officer, the compensation committee conducts his individual performance evaluation. During this process, the compensation committee consults with its compensation consultant and, prior to approving compensation for executive officers, consults with the board of directors.

For all executives, annual base salary increases, if any, are implemented during the first calendar quarter of the year. Annual stock option awards and bonuses, if any, are granted as determined by the compensation committee, typically in the fourth quarter of the applicable year.

The compensation committee does not plan to approve annual equity grants to employees, including named executive officers, at a time when our company is in possession of material non-public information. We do not award stock options to named executive officers concurrently with the release of material non-public information.

In November 2012, in light of continued uncertainties with respect to our clinical development plan, results of our ongoing clinical trials and our financial condition, the compensation committee determined not to conduct the compensation and performance review for our named executive officers that it generally conducts at the end of the year. Instead, the compensation committee agreed to defer such review until the results of our phase 2 clinical trial of IMO-3100 and our phase 1 clinical trial of IMO-8400 were known and we had sought and obtained additional financing. In May 2013, in light of our continuing focus on preserving our cash resources, the compensation committee determined to not increase the base salaries of our named executive officers for 2013 or pay any cash bonuses to our named executive officers for 2012. However, the compensation committee intends to make equity awards to our employees in recognition of their efforts in 2012 and to date in 2013 and in order to continue to offer incentives for future performance which, among other things, further our goals of executive retention.

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Elements of Executive Compensation

The compensation program for our executives generally consists of five elements based upon the foregoing objectives:

- base salary;
- annual cash bonuses;
- stock option awards;
- health care and life insurance and other employee benefits; and
- severance and change in control benefits.

The value of our variable, performance-based compensation is split between short-term compensation in the form of a cash bonus and long-term compensation in the form of stock option awards that vest over time from the time of the grant of the option awards and from the time of achievement of performance milestones. The annual cash bonus is intended to provide an incentive to our executives to achieve near-term operational objectives. The stock option awards provide an incentive for our executives to achieve longer-term strategic business goals, which should lead to higher stock prices and increased stockholder value. We have not had any formal or informal policy or target for allocating compensation between long-term and short-term compensation, between cash and non-cash compensation or among the different forms of non-cash compensation. Instead, the compensation committee, after reviewing industry information and our cash resources, determines subjectively what it believes to be the appropriate level and mix of the various compensation components.

We do not have any defined benefit pension plans or any non-qualified deferred compensation plans.

We entered into a multi-year employment agreement with our chief executive officer, Sudhir Agrawal, D. Phil., in October 2005, which was amended in 2008 to ensure compliance with Section 409A of the Internal Revenue Code of 1986, as amended, or the Code. In August 2011, we entered into an amendment to our employment offer letter with our senior vice president of operations and chief financial officer, Louis J. Arcudi, III, and in December 2011, we entered into an amended and restated employment letter with Mr. Arcudi. These agreements are described below under the caption Agreements with our Named Executive Officers.

Base Salary

In establishing base salaries for our executive officers, our compensation committee typically reviews the market compensation data presented by Radford, considers historic salary levels of the executive officer and the nature of the executive officer s responsibilities, compares the executive officer s base salary with those of our other executives and considers the executive officer s performance. The compensation committee also typically considers the challenges involved in hiring and retaining managerial personnel and scientific personnel with extensive experience in the chemistry of DNA and RNA and its application to toll-like receptors because of the new nature of this technology, general economic conditions and our financial condition. In assessing the executive officer s performance, the compensation committee considers the executive officer s role in the achievement of the annual corporate goals, as well as the performance evaluation prepared by our chief executive officer with respect to such executive officer. The compensation committee considers such evaluation as a means of informing the committee s decision as to whether the executive officer s performance was generally consistent with our expectations.

In November 2011, the compensation committee set base salaries for 2012. In light of setbacks during 2011 regarding our research and development programs, our board s adoption of new strategic goals for our company in September 2011 and our cash resources, the committee determined that annual base salaries for the named executive officers would not be increased for 2012 and would remain at 2011 levels, except that Mr. Arcudi s base salary was increased by $5,000 as a result of his appointment in April 2011 as our senior vice president of

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operations. In May 2013, the compensation committee determined that the base salaries of our named executive officers would not be increased for 2013 and would remain at 2012 levels.

Cash Bonuses

The compensation committee generally structures cash bonuses by linking them to the achievement of the annual corporate goals, corporate performance outside of the corporate goals and individual performance. The amount of the bonus paid, if any, varies among the executive officers depending on individual performance and their contribution to the achievement of our annual corporate goals and corporate performance generally. The compensation committee reviews and assesses corporate goals and individual performance by executive officers and considers the reasons why specific goals have been achieved or have not been achieved. While achievement against the applicable corporate goals is given substantial weight in connection with the determination of annual bonus, consideration is also given to an evaluation of our named executive officers individual performance based on analysis of achievement of individual performance goals as well as the following subjective criteria:

- leadership,
- management,
- judgment and decision making skills,
- results orientation and
- communication.

No formula is applied to the analysis of the achievement of corporate goals or individual goals by executive officers for purposes of the committee s determination of annual cash bonuses.

The compensation committee did not set performance goals for 2012 given the fluidity of our business plans and in light of the uncertainties with respect to our clinical development plan, results of our ongoing clinical trials and our financial condition. Instead, the compensation committee decided it would assess individual and corporate achievements as part of its annual compensation and performance review at the end of 2012. In May 2013, the compensation committee determined to not pay any cash bonuses to our named executive officers for 2012.

Equity Compensation

Our equity award program is the primary vehicle for offering long-term incentives to our executive officers, including our named executive officers. We believe that equity awards provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interest of our named executive officers and our stockholders. Equity grants are intended as both a reward for contributing to the long-term success of our company and an incentive for future performance. The vesting feature of our equity awards is intended to further our goal of executive retention by providing an incentive to our named executive officers to remain in our employ during the vesting period. In determining the size of equity awards to our executives, our compensation committee considers the achievement of our annual corporate goals, individual performance, the applicable executive officer s previous awards, including the exercise price of such previous awards, the recommendations of management and the market compensation data presented by Radford.

Our equity awards have typically taken the form of stock options. However, under the terms of our stock incentive plan, we may grant equity awards other than stock options, such as restricted stock awards, stock appreciation rights and restricted stock units.

The compensation committee approves all equity awards to our executive officers. The compensation committee reviews all components of the executive officer s compensation when determining annual equity awards to ensure that an executive officer s total compensation conforms to our overall philosophy and objectives.

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The compensation committee typically makes initial stock option awards to new executive officers upon commencement of their employment and annual stock option awards thereafter. Equity awards to our named executive officers are typically granted annually in conjunction with the annual performance review. This review typically occurs at the regularly scheduled meeting of the compensation committee held in the fourth quarter of each year. In general, our option awards vest over four years in 16 equal quarterly installments. The exercise price of stock options equals the fair market value of our common stock on the date of grant, which is typically equal to the closing price of our common stock on Nasdaq on the date of grant.

In November 2011, the compensation committee granted annual option awards to our named executive officers, effective December 5, 2011. In light of setbacks during 2011 regarding our research and development programs and our board s adoption of new strategic goals in September 2011, as well as the committee s determination not to increase salaries for 2012 or grant bonuses for 2011 to our named executive officers, the committee structured these options to retain our named executive officers and to align the interests of our executive officers with the interests of our stockholders in the value creation that could arise beginning in 2012 from the achievement of our new strategic goals. As a result, the committee increased the size of the annual option awards, specifically targeting the 75th percentile of the market compensation data, and linked a portion of the vesting of the option awards to the achievement of specified milestones with the option awards having the following time based vesting and performance vesting components:

- 25% of the shares subject to the option become exercisable over four years in 16 equal quarterly installments with the first installment vesting February 28, 2012;
- 25% of the shares subject to the option become exercisable on November 28, 2012;
- 50% of the shares subject to the option become exercisable upon the achievement of specified performance milestones with 25% of the number of shares corresponding to a particular performance milestone vesting upon achievement of the performance milestone and the balance of such shares vesting in three equal installments on the first, second and third anniversaries of the achievement of such milestone; and
- 100% of the unexercisable shares subject to the option become exercisable if, upon or within 12 months after a change in control of our company, the named executive officer s employment is terminated by us without cause or the named executive officer terminates his employment for good reason.

The compensation committee adopted this vesting structure in order to address the following components of incentive compensation:

- our typical annual long-term incentive grant, vesting quarterly over four years;
- a short-term retention grant, vesting in full upon the first anniversary of the grant, which the committee adopted based on the need for executive retention and in recognition that our officers had not received salary increases for 2012 or cash bonuses for 2011; and
- a performance grant, vesting based on the achievement of specified performance milestones modeled on our strategic goals adopted by our board in September 2011.

The performance-based portion of the option awards was tied to nine specified performance milestones. These milestones relate to clinical trials and regulatory processes for our lead compounds, business development transactions and corporate financing. Each milestone must be achieved by a specified date ranging from March 31, 2012 to June 30, 2013 in order to be achieved. The committee designed these milestones to be challenging milestones that the committee believed could be reasonably achieved within the specified timing. Each milestone was weighted and assigned a percentage by the committee such that the achievement of a particular milestone will result in the commencement of vesting of that percentage of the shares subject to the performance-based portion of the option. The total weighting of the milestones equals 125% with the effect that a

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named executive officer can vest with respect to all of the shares subject to the performance-based portion of the option even if one or more milestones are not achieved. However, even if milestones with aggregate weighting of more than 100% are achieved, the named executive officer will not be entitled to more than 100% of the shares subject to the performance-based portion of the option.

In determining the size of the option awards, the compensation committee reviewed the market compensation data presented by Radford regarding annual option grants on the basis of percentage ownership (as opposed to market value), specifically targeting the 75th percentile of the market compensation data. The committee also considered corporate and individual performance during 2011, the value of options then held by executive officers and our chief executive officer s recommendations with respect to the awards to be made to the other executive officers. On this basis, the committee granted options to each of our named executive officer, effective December 2011, including an option to Dr. Agrawal to purchase 500,000 shares. In addition to these options, the committee granted Dr. Agrawal a similar performance option in January 2012 to purchase 35,000 shares on the same terms.

As a result of its deferral of its annual compensation and performance review, the compensation committee did not grant any annual options awards or other equity awards for 2012.

Benefits and Other Compensation

We maintain broad-based benefits that are provided to all employees, including health and dental insurance, life and disability insurance and a 401(k) plan. During 2012, consistent with our prior practice, we matched 50% of the employee contributions to our 401(k) plan up to a maximum of 6% of the participating employee s annual salary, resulting in a maximum company match of 3% of the participating employee s annual salary, and subject to certain additional statutory dollar limitations. Named executive officers are eligible to participate in all of our employee benefit plans, in each case on the same basis as other employees and subject to any limitations in such plans. Each of our named executive officers contributed to our 401(k) plan and their contributions were matched by us.

Our board of directors has adopted a retirement policy to address the treatment of options in the event of an employee s retirement that applies to all employees, including all officers. For purposes of this policy, an employee will be deemed to have retired if the employee terminates his or her employment with us, has been an employee of ours for more than 10 years and is older than 65 upon termination of employment. Under the policy, if an employee retires, then

- all outstanding options held by the employee will automatically vest in full; and
- the period during which the employee may exercise the options will be extended to the expiration of the term of the option under the plan.

Our board adopted this policy for our employees in recognition of the importance of stock options to the compensation of employees and in order that our employees get the full benefit of the options held by them if he or she retires after making 10 years of contributions to our company.

We occasionally pay relocation expenses for newly hired executive officers who we require to relocate as a condition to their employment by us. We also occasionally pay local housing expenses and travel costs for executives who maintain a primary residence outside of a reasonable daily commuting range to our headquarters. We believe that these are typical benefits offered by comparable companies to executives who are asked to relocate and that we would be at a competitive disadvantage in trying to attract executives who would need to relocate in order to work for us if we did not offer such assistance. In 2012, Dr. Sullivan received reimbursement for local housing expenses because Dr. Sullivan maintains a primary residence outside of a reasonable daily commuting range to our headquarters.

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Our named executive officers also may participate in our employee stock purchase plan, which is generally available to all employees who work over 20 hours per week, including our executive officers so long as they own less than 5% of our common stock, including for this purpose vested and unvested stock options. Due to his stock ownership, Dr. Agrawal is not eligible to participate in the employee stock purchase plan. None of our named executive officers participated in the employee stock purchase plan during 2012.

Severance and Change-in-Control Benefits

We currently have an employment agreement with Dr. Agrawal and an employment letter agreement with Mr. Arcudi under which we agreed to provide benefits in the event of the termination of their employment under specified circumstances. We have provided more detailed information about these benefits, along with estimates of their value under various circumstances, under the captions Agreements with our Named Executive Officers and Potential Payments Upon Termination or Change in Control below.

In December 2011, we entered into an amended and restated employment letter with Mr. Arcudi. In connection with this amendment and restatement, we increased the period of time following termination of employment for which he is entitled to receive severance and healthcare, disability and life insurance benefits from three months to 12 months in connection with a termination by us without cause at any time, and provided severance and healthcare, disability and life insurance benefits for 12 months in connection with termination by Mr. Arcudi for good reason upon or within 12 months after a change of control. The committee agreed to these provisions based in part on market compensation data from Radford.

We believe providing severance and/or change-in-control benefits as a component of our compensation structure can help us compete for executive talent and attract and retain highly talented executive officers whose contributions are critical to our long-term success. After reviewing the practices of companies in general industry surveys provided by our independent compensation consultant, we believe that our severance and change-in-control benefits are appropriate.

Deductibility of Executive Compensation/Internal Revenue Code Section 162(m)

Section 162(m) of the Code generally disallows a tax deduction to public companies for certain compensation in excess of $1 million per person paid to our chief executive officer and the three other officers (other than our chief executive officer and chief financial officer) whose compensation is required to be disclosed under the Securities Exchange Act of 1934, as amended, by reason of being among our three other most highly compensated officers. Certain compensation, including qualified performance-based compensation, will not be subject to the deduction limit if specified requirements are met. The compensation committee reserves the right to use its judgment to authorize compensation payments that may be subject to the limit when the compensation committee believes such payments are appropriate and in the best interests of our company and our stockholders. There can be no assurance that compensation attributable to awards granted under our plans will be treated as qualified performance-based compensation under Section 162(m).

Agreements with our Named Executive Officers

We have entered into agreements with certain of our named executive officers, as discussed below, that provide benefits to the executives upon their termination of employment in certain circumstances or under which we have agreed to specific compensation elements. Other than as discussed below, our named executive officers do not have employment agreements with us, other than standard employee confidentiality agreements, and are at-will employees.

Sudhir Agrawal, D. Phil.

We are a party to an employment agreement, as amended, with Dr. Agrawal, our chairman, president and chief executive officer. The agreement had an initial three-year term that is automatically extended for an

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additional year on October 19th of each year during the term of the agreement unless either party provides prior written notice to the other that the term of the agreement is not to be extended. As a result, on each October 19th, the term of the agreement, as extended, will be three years. On October 19, 2012, the term was extended from October 19, 2014 to October 19, 2015.

Under the agreement, Dr. Agrawal is currently entitled to receive an annual base salary of $549,000 or such higher amount as our compensation committee or our board of directors may determine. In addition, under the agreement, Dr. Agrawal is eligible to receive an annual bonus in an amount equal to between 20% and 70% of his base salary, as determined by the compensation committee or our board of directors.

If we terminate Dr. Agrawal s employment without cause or if he terminates his employment for good reason, as such terms are defined in the agreement, we have agreed to:

- continue to pay Dr. Agrawal his base salary as severance for a period ending on the earlier of the final day of the term of the agreement in effect immediately prior to such termination and the second anniversary of his termination date;
- pay Dr. Agrawal a lump sum cash payment equal to the pro rata portion of the annual bonus that he earned in the year preceding the year in which his termination occurs;
- continue to provide Dr. Agrawal with healthcare, disability and life insurance benefits for a period ending on the earlier of the final day of the term of the agreement in effect immediately prior to the termination date and the second anniversary of the termination date, except to the extent another employer provides Dr. Agrawal with comparable benefits;
- accelerate the vesting of any stock options or other equity incentive awards previously granted to Dr. Agrawal as of the termination date to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the agreement in effect immediately prior to such termination; and
- permit Dr. Agrawal to exercise any vested stock options until the second anniversary of the termination date.

If Dr. Agrawal s employment is terminated by him for good reason or by us without cause in connection with, or within one year after, a change in control, we have agreed to provide Dr. Agrawal with all of the items listed above, except that in lieu of the severance amount described above, we will pay Dr. Agrawal a lump sum cash payment equal to his base salary multiplied by the lesser of the aggregate number of years or portion thereof remaining in his employment term and two years. We have also agreed that if we execute an agreement that provides for our company to be acquired or liquidated, or otherwise upon a change in control, all unvested stock options held by Dr. Agrawal will vest in full.

If required by Section 409A of the Code, the payments we are required to make to Dr. Agrawal for the first six months following termination of his employment under his agreement will be made as a lump sum on the date that is six months and one day following such termination.

Our employment agreement with Dr. Agrawal provides that if all or a portion of the payments made under the agreement are subject to the excise tax imposed by Section 4999 of the Code, or a similar state tax or assessment, we will pay him an amount necessary to place him in the same after-tax position as he would have been had no excise tax or assessment been imposed. Any amounts paid pursuant to the preceding sentence will also be increased to the extent necessary to pay income and excise tax on those additional amounts.

In the event of Dr. Agrawal s death or the termination of his employment due to disability, we have agreed to pay Dr. Agrawal or his beneficiary a lump sum cash payment equal to the pro rata portion of the annual bonus that he earned in the year preceding his death or termination due to disability. Additionally, any stock options or

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other equity incentive awards previously granted to Dr. Agrawal and held by him on the date of his death or termination due to disability will vest as of such date to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the employment agreement in effect immediately prior to his death or termination due to disability. Dr. Agrawal or his beneficiary will be permitted to exercise such stock options until the second anniversary of his death or termination of employment due to disability.

Dr. Agrawal has agreed that during his employment with us and for a one-year period thereafter, he will not hire or attempt to hire any of our employees or compete with us.

Louis J. Arcudi, III

We are a party to an employment letter with Mr. Arcudi, our Senior Vice President of Operations, Chief Financial Officer, Treasurer and Secretary. If we terminate Mr. Arcudi s employment without cause at any time, or if he terminates his employment for good reason upon a change in control or within one year after a change of control, as such terms are defined in the agreement, we have agreed to:

- continue to pay Mr. Arcudi his base salary as severance for twelve months following such termination payable in accordance with our then current payroll practices; and
- continue to provide Mr. Arcudi with healthcare, disability and life insurance benefits for twelve months following such termination, except to the extent another employer provides Mr. Arcudi with comparable benefits.

Our agreement to pay severance and benefits is subject to Mr. Arcudi s entering into a separation and release agreement.

If required by Section 409A of the Code, the payments we are required to make to Mr. Arcudi in the first six months following the termination of his employment under his agreement will be made as a lump sum on the date that is six months and one day following such termination.

Compensation Committee Report

The compensation committee has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K with our management. Based on this review and discussion, the compensation committee recommended to our board of directors that the Compensation Discussion and Analysis be included in this proxy statement.

By the compensation committee of the board of directors,

Malcolm MacCoss, Chairman

Youssef El Zein

Eve E. Slater

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Summary Compensation Table

The table below summarizes compensation paid to or earned by our named executive officers. Our named executive officers have no stock awards, defined benefit pension or non-qualified compensation to report for 2012, 2011 and 2010.

Summary Compensation Table for Fiscal Year 2012

Name and Principal Position	Year	Salary ($)	Option Awards ($)(1)	Non-Equity Plan Compensation (2)	All Other Compensation ($)(3)	Total ($)
Sudhir Agrawal, D. Phil.,	2012	$ 549,000	$ 24,019	$	$ 75,447	$ 648,466
Chairman, President and	2011	$ 549,000	$ 334,500	$	$ 30,606	$ 914,156
Chief Executive Officer	2010	$ 530,000	$ 362,795	$ 260,000	$ 29,710	$ 1,182,505
Louis J. Arcudi, III	2012	$ 315,000	$	$	$ 43,523	$ 358,523
Senior Vice President of Operations,	2011	$ 310,000	$ 133,820	$	$ 30,135	$ 473,955
Chief Financial Officer, Treasurer and	2010	$ 290,000	$ 148,476	$ 55,000	$ 29,092	$ 522,568
Secretary						
Timothy M. Sullivan, Ph. D.	2012	$ 299,000	$	$	$ 49,877	$ 348,877
Vice President, Development Programs	2011	$ 299,000	$ 100,365	$	$ 46,978	$ 446,343
and Alliance Management	2010	$ 289,120	$ 113,247	$ 51,000	$ 45,893	$ 499,260
Robert D. Arbeit, M.D.	2012	$ 300,000	$	$	$ 11,968	$ 311,968
Vice President,	2011	$ 300,000	$ 100,365	$	$ 11,913	$ 412,278
Clinical Development	2010	$ 290,100	$ 112,634	$ 51,000	$ 11,766	$ 465,500

(1) Represents the aggregate grant date fair value of options granted to each of the named executive officers as computed in accordance with ASC 718. These amounts do not represent the actual amounts paid to or realized by the named executive officers. See Note 2(j) to the financial statements in our annual report on Form 10-K for the year ended December 31, 2012 regarding assumptions we made in determining the fair value of option awards.

(2) Represents bonuses paid under our cash bonus program based upon the achievement of corporate goals and the specified bonus target for each named executive officer.

(3) All Other Compensation for 2012 for each of the named executive officers includes the following:

	Dr. Agrawal	Mr. Arcudi	Dr. Sullivan	Dr. Arbeit
Premiums paid by us for all insurance plans	$ 22,681	$ 22,192	$ 25,440	$ 4,468
Company match on 401(k)	$ 7,500	$ 7,500	$ 7,500	$ 7,500
Reimbursement for housing expenses			$ 16,937	
Unused vacation accrual	$ 45,266	$ 13,831		

See Compensation Discussion and Analysis above for a discussion of annual cash bonuses and the amount of salary and bonus in proportion to total compensation.

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Grants of Plan-Based Awards

The following table sets forth information regarding stock options granted to Dr. Agrawal during 2012. There were no other stock options and no non-equity incentive plan awards granted during 2012.

Grants of Plan-Based Awards for Fiscal Year 2012

Name	Grant Date	All Other Option Awards: Number of Securities Underlying Options (#)(1)	Exercise or Base Price of Option Awards ($/Sh)	Grant Date Fair Value of Option Awards ($)(2)
Sudhir Agrawal, D. Phil.	1/3/2012	35,000	1.16	$ 24,019
Louis J. Arcudi, III				
Timothy M. Sullivan, Ph.D.				
Robert D. Arbeit, M.D.				

(1) The stock options granted to the named executive officer listed above were granted pursuant to our 2008 Stock Incentive Plan. The term of these options is ten years. The stock options vest based on a combination of performance-based vesting and time-based vesting. See Compensation Discussion and Analysis Elements of Executive Compensation Equity Compensation for a full description of the vesting terms for these options. See Agreements with our Named Executive Officers for further information about acceleration of vesting of Dr. Agrawal s options in the event of the termination of his employment and/or a change of control.

(2) Represents the aggregate grant date fair value of option awards made to the named executive officer in 2012 as computed in accordance with ASC 718. These amounts do not represent the actual amounts paid to or realized by the named executive officers during 2012. See Note 2(j) to the financial statements in our annual report on Form 10-K for the year ended December 31, 2012 regarding assumptions we made in determining the fair value of option awards.

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Outstanding Equity Awards At Fiscal Year-End

The following table sets forth information regarding the outstanding stock options held by our named executive officers as of December 31, 2012. None of our named executive officers held shares of unvested restricted stock as of December 31, 2012.

Outstanding Equity Awards At Fiscal Year-End for 2012

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Sudhir Agrawal, D. Phil.[1]	31,250		$ 4.16	11/30/2014
	125,000		$ 4.48	5/12/2015
	50,000		$ 5.76	6/1/2015
	37,500		$ 4.24	12/15/2015
	125,000		$ 5.10	12/14/2016
	62,500		$ 7.05	6/25/2017
	125,000		$ 13.28	1/2/2018
	200,000		$ 8.70	12/16/2018
	225,000(2)	75,000(2)	$ 5.24	12/23/2019
	115,500(3)	115,500(3)	$ 2.74	12/27/2020
	184,999(4)	253,751(4)	$ 1.157	11/28/2021
	12,950(4)	17,764(4)	$ 1.16	11/28/2021
Louis J. Arcudi, III	80,000		$ 12.25	12/3/2017
	40,000		$ 8.70	12/16/2018
	82,500(2)	27,500(2)	$ 5.24	12/23/2019
	47,500(3)	47,500(3)	$ 2.74	12/27/2020
	74,000(4)	101,500(4)	$ 1.157	11/28/2021
Timothy M. Sullivan, Ph.D.	5,625		$ 8.96	12/16/2013
	58,750		$ 4.16	11/30/2014
	12,500		$ 4.24	12/15/2015
	20,000		$ 5.10	12/14/2016
	25,000		$ 13.28	1/2/2018
	35,000		$ 8.70	12/16/2018
	52,500(2)	17,500(2)	$ 5.24	12/23/2019
	36,250(3)	36,250(3)	$ 2.74	12/27/2020
	55,499(4)	76,126(4)	$ 1.157	11/28/2021
Robert D. Arbeit, M.D.	32,500(5)	7,500(5)	$ 6.43	8/3/2019
	12,750(2)	4,250(2)	$ 5.24	12/23/2019
	36,250(3)	36,250(3)	$ 2.74	12/27/2020
	55,499(4)	76,126(4)	$ 1.157	11/28/2021

(1) See Agreements with our Named Executive Officers for further information about acceleration of vesting of Dr. Agrawal s options in the event of the termination of his employment and/or a change of control.

(2) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 23, 2013 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.

(3) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 27, 2014 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.

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(4) The shares subject to this option vest as follows:

25% of the shares vest over four years in 16 equal quarterly installments with the first installment vesting February 28, 2012;

25% of the shares vest on November 28, 2012;

50% of the shares vest upon the achievement of specified performance milestones with 25% of the number of shares corresponding to a particular performance milestone vesting upon achievement of the performance milestone and the balance of such shares vesting in three equal installments on the first, second and third anniversaries of the achievement of such milestone; and

100% of the unexercisable shares subject to the option vest if, upon or within 12 months after a change in control of our company, the named executive officer s employment is terminated by us without cause or the named executive officer terminates his employment for good reason.

(5) 6.25% of the shares subject to this option vest quarterly from the date of grant until August 3, 2013 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.

Option Exercises and Stock Vested

None of our named executive officers exercised any options during the year ended December 31, 2012.

Potential Payments under Termination or Change in Control

We have an employment agreement with Dr. Agrawal that provides for severance benefits and acceleration of vesting of equity awards following a termination of his employment with our company. Additionally, Mr. Arcudi s employment offer letter provides for severance benefits in certain circumstances. These agreements are described above under the caption Agreements with our Named Executive Officers. Neither Dr. Sullivan nor Dr. Arbeit is entitled to any severance benefits following a termination of his employment with our company. Each of our named executive officers is entitled to acceleration of vesting in connection with a termination of employment upon or within one year after a change in control for the options the compensation committee granted in November 2011, effective December 5, 2011 and January 3, 2012.

Termination of Employment Not in Connection with or following a Change in Control

The following table sets forth the estimated potential benefits that our named executive officers would be entitled to receive upon their termination of employment with our company (other than a termination in connection with or following a change in control of our company) if the named executive officers employment terminated on December 31, 2012. This table represents estimates only and does not necessarily reflect the actual amounts that would be paid to our named executive officers, which would only be known at the time that they become eligible for payment following their termination.

Termination of Employment Not In Connection With or Following Change in Control

Name	Severance Payments ($)	Bonus Amount ($)	Value of Accelerated Vesting of Stock Options ($)(3)	Value of Continuation of Benefits ($)(1)	Total ($)
Sudhir Agrawal, D. Phil.(2)	$ 1,098,000			$ 47,507	$ 1,145,507
Louis J. Arcudi, III(4)	$ 315,000			$ 23,226	$ 338,226
Timothy M. Sullivan, Ph.D.					
Robert D. Arbeit, M.D.					

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(1) This amount represents the estimated cost to us of continuing the named executive officer s healthcare, disability, life and dental insurance benefits for the full severance period applicable to such named executive officer based on our costs for such benefits at December 31, 2012.

(2) Following the termination of Dr. Agrawal s employment by him for good reason or by us other than for death, disability or cause, Dr. Agrawal will be entitled to severance payments, a pro rata portion of his bonus for the prior year, if any, benefits continuation and acceleration of vesting of his equity awards to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the agreement in effect immediately prior to such termination. Upon termination of Dr. Agrawal s employment due to death or disability, we have agreed to pay a pro rata portion of his bonus for the prior year and to accelerate the vesting of his equity awards to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the agreement in effect immediately prior to such termination. See Agreements with our Named Executive Officers for further information about acceleration of vesting and severance payments in such circumstances.

(3) Calculated by multiplying the number of shares subject to options for which vesting would be accelerated by the difference between $0.89, the closing price of our common stock on December 31, 2012, and the per share exercise prices for such options. As of December 31, 2012, all of Dr. Agrawal s options had exercise prices that were higher than $0.89 per share.

(4) Severance payments and benefits continuation will only be paid to Mr. Arcudi following termination by us without cause. See Agreements with our Named Executive Officers for further information about our agreement with Mr. Arcudi.

Termination of Employment In Connection With or Following Change in Control

The following table sets forth the estimated potential benefits that our named executive officers would be entitled to receive upon their termination of employment with our company in connection with or following a change in control of our company if the change of control occurred on December 31, 2012 and the named executive officer s employment was immediately terminated. This table represents estimates only and does not necessarily reflect the actual amounts that would be paid to our named executive officers, which would only be known at the time that they become eligible for payment following their termination.

Termination of Employment In Connection With or Following Change in Control

Name	Severance Payments ($)	Bonus Amount ($)	Value of Accelerated Vesting of Stock Options ($)(3)	Value of Continuation of Benefits ($)(1)	Total ($)
Sudhir Agrawal, D. Phil.(2)	$ 1,098,000			$ 47,507	$ 1,145,507
Louis J. Arcudi, III(4)	$ 315,000			$ 23,226	$ 338,226
Timothy M. Sullivan, Ph.D.					
Robert D. Arbeit, M.D.					

(1) Represents the estimated cost to us of continuing the named executive officers healthcare, disability, life and dental insurance benefits for the applicable severance period based on our costs for such benefits at December 31, 2012.

(2) Following the termination of Dr. Agrawal s employment in connection with or following a change in control by him for good reason or by us other than for death, disability or cause, Dr. Agrawal will be entitled to a lump sum severance payment, a pro rata portion of his bonus for the prior year, benefits continuation and full acceleration of vesting of his option awards. See Agreements with our Named Executive Officers for further information about acceleration of vesting and severance payments in such circumstances.

(3) Calculated by multiplying the number of shares subject to options for which vesting would be accelerated

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by the difference between $0.89, the closing price of our common stock on December 31, 2012, and the per share exercise prices for such options. As of December 31, 2012, all of the options subject to acceleration granted to these individuals had an exercise price that was higher than $0.89 per share.

(4) Following the termination of Mr. Arcudi s employment in connection with or following a change in control by him for good reason or by us other than for death, disability or cause, Mr. Arcudi will be entitled to severance payments of his then current base salary and benefits continuation for a twelve-month period, payable in accordance with and at the times contemplated by our then current payroll practices.

EQUITY COMPENSATION PLAN INFORMATION

The following table provides information about our common stock that may be issued upon exercise of options and warrants under all of our equity compensation plans as of December 31, 2012.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options and Warrants (a)	Weighted-Average Exercise Price of Outstanding Options and Warrants (b)	Number of Securities Remaining Available For Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by stockholders(1)	5,657,256	$ 4.96	2,413,469
Equity compensation plans not approved by stockholders			
Total	5,657,256	$ 4.96	2,413,469

(1) Consists of our:

1995 Employee Stock Purchase Plan;

1995 Director Stock Option Plan;

1997 Stock Incentive Plan;

2005 Stock Incentive Plan; and

2008 Stock Incentive Plan.

Shares are available for future issuance only under our 1995 Employee Stock Purchase Plan and our 2008 Stock Incentive Plan.

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PROPOSAL FOUR

APPROVAL OF THE IDERA PHARMACEUTICALS, INC. 2013 STOCK INCENTIVE PLAN

Overview

In the opinion of our board of directors, the future success of our company depends, in large part, on our ability to maintain a competitive position in attracting, retaining and motivating key employees with experience and ability. On May 22, 2013, our board of directors adopted, subject to stockholder approval, the Idera Pharmaceuticals, Inc. 2013 Stock Incentive Plan, which we refer to as the 2013 Stock Incentive Plan.

The 2013 Stock Incentive Plan would allow for the issuance of up to 4,000,000 shares of our common stock plus such additional number of shares of common stock (up to 5,945,000) as is equal to the sum of (i) the number of shares of common stock reserved for issuance under our 2008 Stock Incentive Plan that are available for grant under the 2008 Stock Incentive Plan immediately prior to the date the 2013 Stock Incentive Plan is approved by our stockholders and (ii) the number of shares of common stock subject to awards granted under our 2008 Stock Incentive Plan which awards expire, terminate or are otherwise surrendered, cancelled, or forfeited or repurchased by us at their original issuance price pursuant to a contractual repurchase right (subject, however, in the case of incentive stock options to any limitations of the Internal Revenue Code of 1986, as amended, or the Code).

We will no longer issue awards under the 2008 Stock Incentive Plan upon approval by stockholders of the 2013 Stock Incentive Plan.

As of May 15, 2013, options covering 3,632,603 shares of our common stock with a weighted average exercise price of $3.72 and a weighted average remaining term of 7.4 years were outstanding under the 2008 Stock Incentive Plan. In addition, as of May 15, 2013, 2,327,042 shares were available for future grant under the 2008 Stock Incentive Plan. On May 22, 2013, our compensation committee granted options covering 1,719,333 shares of our common stock under our 2008 Stock Incentive Plan.

The 2013 Stock Incentive Plan is intended to be a broad-based plan that allows for the issuance of equity awards deep into our organization. Approximately 18 employees, or about 100% of our employee population, currently participate in our equity incentive compensation programs. In addition, consultants and advisors, as well as our non-employee directors, currently participate in our equity incentive compensation programs.

The board of directors believes that approving the 2013 Stock Incentive Plan is appropriate and in the best interests of stockholders given the highly competitive environment in which we recruit and retain employees, the dilution rate of our peers and our historical rate of issuing equity awards. Our board of directors and management will carefully consider all proposed grants under the 2013 Stock Incentive Plan.

In developing our share request for the 2013 Stock Incentive Plan and analyzing the impact of utilizing equity on our shareholders, we considered our burn rate and overhang.

Burn rate provides a measure of the potential dilutive impact of our annual equity award program. Set forth below is a table that reflects our burn rate for 2012, 2011 and 2010 as well as the average over those years.

FY	Options Granted	Total Granted	Basic Weighted Average Number of Common Shares Outstanding	Gross Burn Rate (1)
2012	187,500	187,500	27,639,351	0.7%
2011	1,670,750	1,670,750	27,622,710	6.0%
2010	1,087,000	1,087,000	25,139,274	4.3%
Three-Year Average				3.7%

(1) Gross Burn Rate is defined as the number of shares of common stock underlying options granted in the year divided by the basic weighted average number of shares of common stock outstanding.

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Overhang is a measure of potential dilution and is defined as the sum of (i) the total number of shares underlying all equity awards outstanding and (ii) the total number of shares available for future award grants, divided by: the sum of (a) the total number of shares underlying all equity awards outstanding, (b) the total number of shares available for future award grants and (c) the basic weighted average common shares outstanding for the most recently completed fiscal year. Our overhang at December 31, 2012 was 21.9%. If the 4,000,000 shares proposed to be authorized for grant under the 2013 Stock Incentive Plan are included in the calculation, our overhang would have been 29.8% at December 31, 2012.

Summary of the 2013 Stock Incentive Plan

The following summary of the 2013 Stock Incentive Plan is qualified in its entirety by reference to the 2013 Stock Incentive Plan, a copy of which is attached as Appendix D to this proxy statement. In addition, a copy of the 2013 Stock Incentive Plan may be obtained by making a written request to our Secretary at Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139. References to the board of directors in this summary shall include the compensation committee of the board of directors or any similar committee appointed by the board of directors to administer the 2013 Stock Incentive Plan.

Types of Awards; Shares Available for Issuance

The 2013 Stock Incentive Plan allows for the issuance of incentive stock options intended to qualify under Section 422 of the Code, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units, other stock-based awards and performance awards; we refer to these securities as Awards. Subject to adjustment in the event of stock splits, stock dividends or similar events, Awards may be made under the 2013 Stock Incentive Plan for up to 4,000,000 shares of our common stock plus such additional number of shares of common stock (up to 5,945,000) as is equal to the sum of (i) the number of shares of common stock reserved for issuance under the 2008 Stock Incentive Plan that remain available for grant under the 2008 Stock Incentive Plan immediately prior to the date the 2013 Stock Incentive Plan is approved by stockholders and (ii) any shares of common stock subject to awards that are currently outstanding under the 2008 Stock Incentive Plan that expire, are terminated, cancelled, surrendered or forfeited, or are repurchased by us at their original issuance price pursuant to a contractual repurchase right (subject, however, in the case of incentive stock options to any limitations under the Code). In addition, if any Award granted under the 2013 Stock Incentive Plan expires or is terminated, surrendered, cancelled, forfeited or otherwise results in any common stock not being issued, the unused common stock covered by such Award shall again be available for the grant of Awards under the 2013 Stock Incentive Plan (subject, in the case of incentive stock options, to any limitations under the Code). However, shares of common stock delivered to us by a participant to purchase common stock upon exercise of an Award or to satisfy tax withholding obligations (including shares retained from the Award creating the tax obligation) shall not be added back to the number of shares of common stock available for the future grant of Awards under the 2013 Stock Incentive Plan. In addition, common stock repurchased by us on the open market using proceeds from the exercise of an Award shall not increase the number of shares of common stock available for future grant of Awards under the 2013 Stock Incentive Plan.

Certain sub-limitations apply to the shares available for issuance under the 2013 Stock Incentive Plan. The maximum number of shares with respect to which Awards may be granted to any participant under the 2013 Stock Incentive Plan is 1,500,000 shares per calendar year. The maximum number of shares with respect to which Awards may be granted to directors who are not employees of Idera at the time of grant shall be 20% of the maximum number of authorized shares under the 2013 Stock Incentive Plan. Performance Awards can also provide for cash payments of up to a maximum of $1,500,000 per fiscal year per individual.

All shares of common stock covered by stock appreciation rights, if any, shall be counted against the number of shares available for grant under the 2013 Stock Incentive Plan and the sub-limitations on Awards to non-employee directors. However, stock appreciation rights that may be settled only in cash shall not be so counted, and if a stock appreciation right is granted in tandem with an option for the same number of shares of

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common stock and the grant provides that only one such Award may be exercised, or tandem SAR, only the shares covered by the option shall be counted, and the expiration of one in connection with the other s exercise will not restore shares to the 2013 Stock Incentive Plan. The shares covered by a tandem SAR will not again become available for grant under the 2013 Stock Incentive Plan upon the expiration or termination of the tandem SAR. In the case of the exercise of a stock appreciation right, the number of shares counted against the shares available under the 2013 Stock Incentive Plan and the sub-limitation on Awards to non-employee directors shall be the full number of shares subject to the stock appreciation right multiplied by the percentage of the stock appreciation right actually exercised, regardless of the number of shares actually used to settle the stock appreciation right upon exercise.

Subject to adjustment in the event of changes in capitalization and reorganization events (as defined below), any Award granted under the 2013 Stock Incentive Plan that is not a full-value award shall be counted against the number of shares available for grant under the 2013 Stock Incentive Plan and the sub-limitation on Awards to non-employee directors as one share for each share of common stock subject to such Award, and any Award that is a full-value award shall be counted as 1.25 shares for each share of common stock subject to such Award. Full-value award means any Award of restricted stock or restricted stock units or any other stock-based Award with a per share price or per unit purchase price lower than 100% of the fair market value of our common stock on the date of grant. To the extent a share that was subject to an Award that counted as one share is returned to the plan as described above, each applicable share reserve will be credited with one share, and to the extent a share that was subject to an Award that counted as 1.25 shares is returned to the plan as described above, each applicable share reserve will be credited with 1.25 shares.

In connection with a merger or consolidation of an entity with us or our acquisition of property or stock of an entity, our board of directors may grant Awards under the 2013 Stock Incentive Plan in substitution for an option or other stock or stock-based Awards granted by such entity or an affiliate thereof on such terms as our board of directors determines appropriate in the circumstances, notwithstanding any limitation on Awards contained in the 2013 Stock Incentive Plan. Substitute Awards granted under the 2013 Stock Incentive Plan in connection with a merger or consolidation of an entity with Idera or the acquisition by Idera of property or stock of an entity shall not count against the overall share limits and sub-limitations described above, except as required by reason of Section 422 and related provisions of the Code.

Shares issued under the 2013 Stock Incentive Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

Descriptions of Awards

Options. Optionees receive the right to purchase a specified number of shares of common stock at a specified option price and subject to such other terms and conditions as are specified in connection with the option grant. Options may not be granted at an exercise price that is less than 100% of the fair market value of the common stock on the effective date of grant; provided, however, that if our board of directors approves the grant of an option with an exercise price to be determined on a future date, the exercise price may not be less than 100% of the fair market value of the common stock on such future date. Under present law, incentive stock options may not be granted at an exercise price less than 110% of the fair market value in the case of stock options granted to optionees holding more than 10% of the total combined voting power of all classes of our stock. Under the terms of the 2013 Stock Incentive Plan, stock options may not be granted for a term in excess of 10 years (and, under present law, five years in the case of incentive stock options granted to optionees holding greater than 10% of the total combined voting power of all classes of our stock). Any or all of the Awards available under the 2013 Stock Incentive Plan may be in the form of incentive stock options. The 2013 Stock Incentive Plan permits participants to pay the exercise price of options using one or more of the following manners of payment: (i) payment by cash, check or wire transfer, or, except as may otherwise be provided in the applicable option agreement or approved by our board of directors, in connection with a cashless exercise through a broker, (ii) to the extent provided in the applicable option agreement or approved by our board of directors, and subject to certain conditions, by surrender to us of shares of common stock owned by the

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participant valued at their fair market value, (iii) to the extent provided in an applicable nonstatutory stock option agreement or approved by our board of directors, and subject to certain conditions, by delivery of a notice of net exercise as a result of which we will retain a number of shares of common stock otherwise issuable pursuant to the stock option equal to the aggregate exercise price for the portion of the option being exercised divided by the fair market value of our common stock on the date of exercise, (iv) to the extent provided in the applicable option agreement or approved by our board of directors, by any other lawful means, or (v) any combination of the foregoing.

Stock Appreciation Rights. A stock appreciation right, or SAR, is an award entitling the holder, upon exercise, to receive a number of shares of common stock or cash (or a combination thereof) determined by reference to appreciation, from and after the date of grant, in the fair market value of a share of our common stock over the measurement price. SARs may be granted independently or in tandem with stock options granted under the 2013 Stock Incentive Plan. When a SAR is granted in tandem with a stock option, the SAR will be exercisable only at such time or times, and to the extent, that the related stock option is exercisable (except to the extent designated by our board of directors in connection with reorganization event), will terminate and no longer be exercisable upon the termination or exercise of the related option (except to the extent designated by our board of directors in connection with a reorganization event), and will be transferable only with the related stock option. The related stock option will terminate and no longer be exercisable upon the exercise of the SAR. The 2013 Stock Incentive Plan provides that the measurement price of an SAR may not be less than 100% of the fair market value of our common stock on the effective date of grant (provided, however, that if our board of directors approves the grant of a SAR effective as of a future date, the measurement price shall not be less than 100% of the fair market value on such future date) and that SARs granted under the 2013 Stock Incentive Plan may not have a term in excess of 10 years.

Limitation on Repricing of Options or SARs; Other Limitations. With respect to options and SARS, unless such action is approved by stockholders or permitted under the terms of the 2013 Stock Incentive Plan in connection with certain changes in capitalization and reorganization events, we may not (i) amend any outstanding option or SAR granted under the 2013 Stock Incentive Plan to provide an exercise price or measurement price per share that is lower than the then-current exercise price or measurement price per share of such outstanding option or SAR, (ii) cancel any outstanding option or SAR (whether or not granted under the 2013 Stock Incentive Plan) and grant in substitution therefor new Awards under the 2013 Stock Incentive Plan (other than certain Awards granted in connection with our merger or consolidation with, or acquisition of, another entity, covering the same or a different number of shares of common stock and having an exercise price or measurement price per share lower than the then-current exercise price or measurement price per share of the cancelled option or SAR, (iii) cancel in exchange for a cash payment any outstanding option or SAR with an exercise price or measurement price per share above the then-current fair market value of our common stock, or (iv) take any other action under the 2013 Stock Incentive Plan that constitutes a repricing within the meaning of the rules of the Nasdaq Stock Market. No option or SAR granted under the 2013 Stock Incentive Plan shall contain any provision entitling the grantee to the automatic grant of additional options or SARs in connection with any exercise of the original option or SAR or provide for the payment or accrual of dividend equivalents.

Restricted Stock Awards. We may issue Awards entitling recipients to acquire shares of our common stock subject to our right to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the board of directors in the applicable Award are not satisfied prior to the end of the applicable restriction period established for such Award. We refer to these Awards as Restricted Stock. Unless otherwise provided in the applicable Award agreement, any dividend declared and paid by us with respect to a share of Restricted Stock shall be paid to the participant (without interest) only if and when such shares of Restricted Stock become free from any applicable restrictions on transferability and forfeitability.

Restricted Stock Units. We may also grant Awards entitling the recipient to receive shares of our common stock (or cash equal to the fair market value of such shares) to be delivered at the time such Award vests. We refer to these Awards as Restricted Stock Units. Our board of directors may, in its discretion, provide that

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settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the participant in a manner that complies with Section 409A of the Code. A participant has no voting rights with respect to any Restricted Stock Units. A grant of Restricted Stock Units may provide the participant with a right to receive dividend equivalents, which shall be subject to the same restrictions on transfer and forfeitability as the underlying Restricted Stock Units. Dividend equivalents with respect to Restricted Stock Units will be subject to the same restrictions on transfer and forfeitability as the underlying Restricted Stock Unit Award.

Other Stock-Based Awards. Under the 2013 Stock Incentive Plan, our board of directors may grant other Awards that are valued in whole or in part by reference to, or are otherwise based upon our common stock or other property, having such terms and conditions as the board of directors may determine. We refer to these types of Awards as Other Stock-Based Awards. Other Stock-Based Awards may be available as a form of payment in the settlement of other Awards granted under the 2013 Stock Incentive Plan or as payment in lieu of compensation to which a participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of our common stock or cash, as our board of directors determines. Dividend equivalents with respect to Other Stock-Based Awards will be subject to the same restrictions on transfer and forfeitability as the underlying Other Stock-Based Award.

Performance Awards. Restricted Stock, Restricted Stock Units and Other Stock-Based Awards granted under the 2013 Stock Incentive Plan may be made subject to achievement of performance goals. We refer to these types of Awards as Performance Awards. Performance Awards may also provide for cash payments of up to $1,500,000 per fiscal year per individual. With respect to Performance Awards intended to qualify as performance-based compensation under Section 162(m) of the Code, the compensation committee of our board of directors shall specify, at the time of grant, that such Performance Award will be granted, vest and/or pay out solely upon the achievement of specified objective performance criteria that are based on the relative or absolute attainment of specified levels of one or any combination of the following, which may be determined pursuant to generally accepted accounting principles, or GAAP, or on a non-GAAP basis, as determined by the compensation committee:

earnings per share;

return on average equity or average assets with respect to a pre-determined peer group;

earnings;

earnings growth;

revenues;

expenses;

stock price;

market share;

return on sales, assets, equity or investment;

regulatory compliance;

achievement of balance sheet or income statement objectives;

total shareholder return;

net operating profit after tax;

pre-tax or after tax income;

cash flow;

achievement of research, development, clinical or regulatory milestones;

product sales;

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business development activities;

the entry into an arrangement or agreement with a third party for the development, commercialization, marketing or distribution of products, services or technologies, or for conducting a research program to discover and develop a product, service or technology, and/or the achievement of milestones under such arrangement or agreement, including events that trigger an obligation or payment right;

achievement of domestic and international regulatory milestones, including the submission of filings required to advance products, services and technologies in clinical development and the achievement of approvals by regulatory authorities relating to the commercialization of products, services and technologies;

the achievement of discovery, preclinical and clinical stage scientific objectives, discoveries or inventions for products, services and technologies under research and development;

the entry into or completion of a phase of clinical development for any product, service or technology, such as the entry into or completion of phase 1, 2 and/or 3 clinical trials;

the consummation of debt or equity financing transactions, or acquisitions of business, technologies and assets;

new product or service releases;

specified levels of product sales, net income, earnings before or after discontinued operations, interest, taxes, depreciation and/or amortization, operating profit before or after discontinued operations and/or taxes, sales, sales growth, earnings growth, cash flow or cash position, gross margins, stock price, market share, return on sales, assets, equity or investment; and

improvement of financial ratings.

The preceding performance criteria may reflect absolute entity or business unit performance or a relative comparison to the performance of a peer group of entities or other external measure of selected performance criteria and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. The compensation committee may specify that such performance measures shall be adjusted to exclude any one or more of:

extraordinary items;

gains or losses on the dispositions of discontinued operations;

the cumulative effects of changes in accounting principles;

the writedown of any asset;

fluctuation in foreign currency exchange rates; and

charges for restructuring and rationalization programs.

Such performance measures (i) may vary by participant and may be different for different Awards; (ii) may be particular to a participant or the department, branch, line of business, subsidiary or other unit in which the participant works and may cover such period as may be specified by the compensation committee; and (iii) shall be set by the compensation committee within the time period prescribed by, and shall otherwise comply with the requirements of, Section 162(m). The compensation committee may adjust downwards, but not upwards, the cash or number of shares payable pursuant to such Awards and may not waive the achievement of the applicable performance measures except in the case of the death or disability of the participant or a change in control of Idera. Performance Awards that are not intended to qualify as performance-based compensation under Section 162(m) may be based on these or other performance measures as determined by our board of directors. Dividend equivalents with respect to Performance Awards will be subject to the same restrictions on transfer and forfeitability as the underlying Performance Award.

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Transferability of Awards

Except as the board of directors may otherwise determine or provide in an Award in connection with certain gratuitous transfers, Awards may not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an incentive stock option, pursuant to a qualified domestic relations order. During the life of the participant, Awards are exercisable only by the participant.

Eligibility to Receive Awards

Employees, officers, directors, consultants and advisors of Idera and of our present or future parent or subsidiary corporations and any other business venture in which Idera has a controlling interest (as determined by our board of directors) are eligible to be granted Awards under the 2013 Stock Incentive Plan. However, incentive stock options may only be granted to our employees, employees of our present or future parent or subsidiary corporations, and employees of any other entities the employees of which are eligible to receive incentive stock options under the Code. As of May 15, 2013, approximately 18 persons were eligible to receive Awards under the 2013 Stock Incentive Plan, including our executive officers and non-employee directors. The granting of Awards under the 2013 Stock Incentive Plan is discretionary, and we cannot now determine the number or type of Awards to be granted in the future to any particular person or group, except that Awards are subject to the limitations described above. On May 23, 2013, the last reported sale price of our common stock on the Nasdaq Capital Market was $0.70.

Administration

Our board of directors administers the 2013 Stock Incentive Plan and is authorized to grant Awards and to adopt, amend and repeal the administrative rules, guidelines and practices relating to the 2013 Stock Incentive Plan and to construe and interpret the provisions of the 2013 Stock Incentive Plan and any Award agreements entered into under the 2013 Stock Incentive Plan. Our board of directors may correct any defect, supply any omission or reconcile any inconsistency in the 2013 Stock Incentive Plan or any Award in the manner and to the extent it shall deem expedient and it shall be the sole and final judge of such expediency.

Pursuant to the terms of the 2013 Stock Incentive Plan, our board of directors may delegate authority under the 2013 Stock Incentive Plan to one or more committees or subcommittees of our board of directors. Our board of directors has authorized the compensation committee to administer certain aspects of the 2013 Stock Incentive Plan, including the granting of awards to directors and executive officers. The compensation committee, with the input of management, selects the recipients of Awards and determines, in addition to other items, and subject to the terms of the 2013 Stock Incentive Plan:

- the number of shares of common stock, cash or other consideration covered by Awards and the terms and conditions of such Awards, including the dates upon which such Awards become exercisable or otherwise vest;
- the exercise price of Awards;
- the effect on Awards of a change in control of Idera; and
- the duration of Awards.

To the extent permitted by applicable law, our board of directors may delegate to one or more of our officers the power to grant stock options and certain Awards to our employees or non-executive officers and to exercise such other powers under the 2013 Stock Incentive Plan as the board of directors may determine, provided that the board of directors shall fix the terms of the Awards to be granted by such officers (including the exercise price of such Awards, which may include a formula by which the exercise price will be determined) and the maximum number of shares subject to Awards that the officers may grant. No officer shall be authorized to grant Awards to any of our executive officers. The board of directors has delegated to our chief executive officer the authority

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under the 2013 Stock Incentive Plan to grant stock options and restricted stock units to our non-executive employees subject to certain specified limitations and oversight by the compensation committee.

Awards to non-employee directors will only be granted and administered by a committee, all the members of which are independent as defined by Section 5605(a)(2) of the Nasdaq Listing Rules.

The board of directors may at any time provide that any Award will become immediately exercisable in whole or in part, free of some or all restrictions or conditions, or otherwise realizable in whole or in part, as the case may be, except as otherwise provided under the terms of the 2013 Stock Incentive Plan in the case of Performance Awards.

Except as otherwise provided under the 2013 Stock Incentive Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and our board of directors need not treat participants uniformly. Our board of directors shall determine the effect on an Award of the disability, death, retirement, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a participant and the extent to which, and the period during which, the participant (or the participant s legal representative, conservator, guardian or designated beneficiary) may exercise rights under the Award.

We are required to make equitable adjustments (in the manner determined by our board of directors) to the number and class of securities available under the 2013 Stock Incentive Plan, the share counting rules and sub-limits set forth in the 2013 Stock Incentive Plan, and any outstanding Awards under the 2013 Stock Incentive Plan to reflect stock splits, stock dividends, recapitalizations, combinations of shares, reclassifications of shares, spin-offs and other similar changes in capitalization or events or any dividends or distributions to holders of our common stock other than ordinary cash dividends.

All decisions by the board of directors shall be made in the board of directors sole discretion and shall be final and binding on all persons having or claiming any interest on the 2013 Stock Incentive Plan or in any Award. We will indemnify and hold harmless each director, officer, employee or agent to whom any duty or power relating to the administration or interpretation of the 2013 Stock Incentive Plan has been or will be delegated against any cost or expense (including attorneys fees) or liability (including any sum paid in settlement of a claim with the board of directors approval) arising out of any act or omission to act concerning the 2013 Stock Incentive Plan unless arising out of such person s own fraud or bad faith.

Amendment of Awards. Except as otherwise provided under the 2013 Stock Incentive Plan with respect to repricing outstanding stock options or SARs, Performance Awards or actions requiring stockholders approval, our board of directors may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an incentive stock option to a nonstatutory stock option, provided that the participant s consent to any such action will be required unless our board of directors determines that the action, taking into account any related action, does not materially and adversely affect the participant s rights under the 2013 Stock Incentive Plan or the change is otherwise permitted under the terms of the 2013 Stock Incentive Plan in connection with a change in capitalization or reorganization event.

Reorganization Events

Definitions. The 2013 Stock Incentive Plan contains provisions addressing the consequences of any reorganization event. A reorganization event is defined under the terms of the 2013 Stock Incentive Plan to mean (a) any merger or consolidation of us with or into another entity as a result of which our common stock is converted into or exchanged for the right to receive cash, securities or other property, or is cancelled, (b) any transfer or disposition of all of our common stock for cash, securities or other property pursuant to a share exchange or other transaction or (c) our liquidation or dissolution.

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Awards Other than Restricted Stock; Options Available to the Board of Directors. Under the 2013 Stock Incentive Plan, if a reorganization event occurs, our board of directors may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Stock on such terms as the board of directors determines (except to the extent specifically provided otherwise in an applicable Award agreement or another agreement between a participant and us): (A) provide that such Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (B) upon written notice to a participant, provide that all of the participant s unexercised Awards will terminate immediately prior to the consummation of such reorganization event unless exercised by the participant (to the extent then exercisable) within a specified period following the date of such notice, (C) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such reorganization event, (D) in the event of a reorganization event under the terms of which holders of common stock will receive upon consummation thereof a cash payment for each share surrendered in the reorganization event, which we refer to as the Acquisition Price, make or provide for a cash payment to participants with respect to each Award held by a participant equal to (X) the number of shares of common stock subject to the vested portion of the Award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such reorganization event) multiplied by (Y) the excess, if any, of (I) the Acquisition Price over (II) the exercise, measurement or purchase price of such Award and any applicable tax withholdings, in exchange for the termination of such Award, (E) provide that, in connection with our liquidation or dissolution, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings) and (F) any combination of the foregoing. Our board of directors is not obligated to treat all Awards, all Awards held by a participant, or all Awards of the same type, identically.

The 2013 Stock Incentive Plan also provides, however, that for Restricted Stock Units that are subject to Section 409A of the Code: (A) if the applicable Restricted Stock Unit agreement provides that the Restricted Stock Units shall be settled upon a change in control event within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(i), and the reorganization event constitutes such a change in control event, then no assumption or substitution of the Restricted Stock Unit shall be permitted, and the Restricted Stock Units shall instead be settled in accordance with the terms of the applicable Restricted Stock Unit agreement; and (B) the board of directors may only undertake the actions set forth in clauses (C), (D) or (E) above; if the reorganization event is a change in control event as so defined under the Treasury Regulation and such action is permitted or required by Section 409A of the Code. If the reorganization event does not constitute a change in control event as defined in the Treasury Regulation or such action is not permitted or required by Section 409A of the Code, and the acquiring or succeeding corporation does not assume or substitute the Restricted Stock Units pursuant to clause (A) above, then the unvested Restricted Stock Units shall terminate immediately prior to the consummation of the reorganization event without any payment in exchange therefor.

For purposes of clause (A) above (providing for the assumption of Awards by an acquiring or succeeding corporation), an Award (other than Restricted Stock) shall be considered assumed if, following the consummation of the reorganization event, such Award confers the right to purchase or receive pursuant to the terms of such Award, for each share of common stock subject to the Award immediately prior to the consummation of the reorganization event, the consideration (whether cash, securities or other property) received as a result of the reorganization event by holders of common stock for each share of common stock held immediately prior to the consummation of the reorganization event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of common stock); provided however, that if the consideration received as a result of the reorganization event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), we may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise or settlement of the Award to consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the board of directors determined to be equivalent in value (as of the date of such determination or another date specified by the board of directors) to the per share consideration received by holders of outstanding shares of common stock as a result of the reorganization event.

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Provisions Applicable to Restricted Stock. Upon the occurrence of a reorganization event other than our liquidation or dissolution, our repurchase and other rights with respect to outstanding Restricted Stock shall inure to the benefit of our successor and shall, unless the board of directors determines otherwise, apply to the cash, securities or other property which the common stock was converted into or exchanged for pursuant to such reorganization event in the same manner and to the same extent as they applied to such Restricted Stock; provided, however, that the board of directors may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing any Restricted Stock or any other agreement between a participant and us, either initially or by amendment.

Upon the occurrence of a reorganization event involving our liquidation or dissolution, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock or any other agreement between the participant and us, all restrictions and conditions on all Restricted Stock then outstanding shall automatically be deemed terminated or satisfied.

Provisions for Foreign Participants

Our board of directors may from time to time establish one or more sub-plans under the 2013 Stock Incentive Plan for purposes of satisfying applicable securities, tax or other laws of various jurisdictions. Our board of directors shall establish such sub-plans by adopting supplements to the 2013 Stock Incentive Plan containing any limitations on our board s discretion under the 2013 Stock Incentive Plan as our board shall deem necessary or desirable and any additional terms and conditions not otherwise inconsistent with the 2013 Stock Incentive Plan that our board shall deem necessary or desirable. All supplements adopted by our board of directors shall be deemed to be part of the 2013 Stock Incentive Plan, but each supplement shall apply only to participants within the affected jurisdiction.

Amendment or Termination

Our board of directors may amend, suspend or terminate the 2013 Stock Incentive Plan or any portion thereof at any time provided that (i) to the extent required by Section 162(m) of the Code, no Award granted to a participant that is intended to comply with Section 162(m) after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award, unless and until our stockholders approve such amendment in the manner required by Section 162(m); (ii) no amendment that would require stockholder approval under the rules of the Nasdaq Stock Market may be made effective unless and until our stockholders approve such amendment; and (iii) if the Nasdaq Stock Market amends the rules of the Nasdaq Stock Market so that such rules no longer require stockholder approval of material amendments to equity compensation plans, then, from and after the effective date of such amendment to the rules of the Nasdaq Stock Market, no amendment to the 2013 Stock Incentive Plan (A) materially increasing the number of shares authorized under the 2013 Stock Incentive Plan (other than as provided for in the 2013 Stock Incentive Plan in connection with substitute Awards, changes in capitalization or reorganization events), (B) expanding the types of Awards that may be granted under the 2013 Stock Incentive Plan, or (C) materially expanding the class of participants eligible to participate in the 2013 Stock Incentive Plan shall be effective unless and until our stockholders approve such amendment. In addition, if at any time the approval of our stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to incentive stock options, the board of directors may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the 2013 Stock Incentive Plan adopted in accordance with the procedures described above shall apply to, and be binding on the holders of, all Awards outstanding under the 2013 Stock Incentive Plan at the time the amendment is adopted, provided that the board of directors determines that such amendment, taking into account any related action, does not materially and adversely affect the rights of participants under the 2013 Stock Incentive Plan.

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Effective Date and Term of 2013 Stock Incentive Plan

The 2013 Stock Incentive Plan shall become effective on the date the plan is approved by our stockholders. No Awards shall be granted under the 2013 Stock Incentive Plan after the expiration of 10 years from the effective date, but Awards previously granted may extend beyond that date.

Federal Income Tax Consequences

The following generally summarizes the United States federal income tax consequences that generally will arise with respect to Awards granted under the 2013 Stock Incentive Plan. This summary is based on the federal tax laws in effect as of the date of this proxy statement. In addition, this summary assumes that all Awards are exempt from, or comply with, the rules under Section 409A of the Code regarding nonqualified deferred compensation. Changes to these laws or assumptions could alter the tax consequences described below.

Incentive Stock Options. A participant will not have income upon the grant of an incentive stock option. Also, except as described below, a participant will not have income upon exercise of an incentive stock option if the participant has been employed by us or our corporate parent or 50% or more-owned corporate subsidiary at all times beginning with the option grant date and ending three months before the date the participant exercises the option. If the participant has not been so employed during that time, then the participant will be taxed as described below under Nonstatutory Stock Options. The exercise of an incentive stock option may subject the participant to the alternative minimum tax.

A participant will have income upon the sale of the stock acquired under an incentive stock option, which we refer to as ISO stock, at a profit (if sales proceeds exceed the exercise price). The type of income will depend on when the participant sells the ISO stock. If a participant sells the ISO stock more than two years after the option was granted and more than one year after the option was exercised, then all of the profit will be long-term capital gain. If a participant sells the ISO stock prior to satisfying these waiting periods, then the participant will have engaged in a disqualifying disposition and a portion of the profit will be ordinary income and a portion may be capital gain. This capital gain will be long-term if the participant has held the ISO stock for more than one year and otherwise will be short-term. If a participant sells the ISO stock at a loss (sales proceeds are less than the exercise price), then the loss will be a capital loss. This capital loss will be long-term if the participant held the ISO stock for more than one year and otherwise will be short-term.

Nonstatutory Stock Options. A participant will not have income upon the grant of a nonstatutory stock option. A participant will have compensation income upon the exercise of a nonstatutory stock option equal to the fair market value of the stock on the day the participant exercised the option less the exercise price. Upon sale of the stock, which we refer to as NSO stock, the participant will have capital gain or loss equal to the difference between the sales proceeds and the fair market value of the NSO stock on the day the option was exercised. This capital gain or loss will be long-term if the participant has held the NSO stock for more than one year and otherwise will be short-term.

Stock Appreciation Rights. A participant will not have income upon the grant of an SAR but generally will recognize compensation income upon the exercise of an SAR equal to the amount of the cash and the fair market value of any stock received. Upon the sale of the stock, the participant will have capital gain or loss equal to the difference between the sales proceeds and the value of the stock on the day the SAR was exercised. This capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Restricted Stock. A participant will not have income upon the grant of Restricted Stock unless an election under Section 83(b) of the Code is made within 30 days of the date of grant. If a timely Section 83(b) election is made, then a participant will have compensation income equal to the fair market value of the stock less the purchase price, if any. When the stock is sold, the participant will have capital gain or loss equal to the difference between the sales proceeds and the fair market value of the stock on the date of grant. If the participant does not

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make a Section 83(b) election, then when the shares of Restricted Stock vest the participant will have compensation income equal to the fair market value of the stock on the vesting date less the purchase price. When the stock is sold, the participant will have capital gain or loss equal to the sales proceeds less the fair market value of the stock on the vesting date. Any capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Restricted Stock Units. A participant will not have income upon the grant of a Restricted Stock Unit. A participant is not permitted to make a Section 83(b) election with respect to a Restricted Stock Unit. When the Restricted Stock Unit vests, the participant will have income on the vesting date in an amount equal to the fair market value of the stock on the vesting date less the purchase price, if any. When the stock is sold, the participant will have capital gain or loss equal to the sales proceeds less the value of the stock on the vesting date. Any capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Other Stock-Based Awards. The tax consequences associated with any Other Stock-Based Award granted under the 2013 Stock Incentive Plan will vary depending on the specific terms of the Award. Among the relevant factors are whether or not the Award has a readily ascertainable fair market value, whether or not the Award is subject to forfeiture provisions or restrictions on transfer, the nature of the property to be received by the participant under the Award and the participant s holding period and tax basis for the Award or underlying common stock.

Tax Consequences to Idera. There will be no tax consequences to us except that we will be entitled to a deduction when a participant has compensation income. Any such deduction will be subject to the limitations of Section 162(m) of the Code.

Recommendation of the Board of Directors and Required Vote

Our board of directors recommends that stockholders vote to approve the Idera Pharmaceuticals, Inc. 2013 Stock Incentive Plan by voting FOR this proposal.

The affirmative vote of the stockholders holding a majority of the issued and outstanding shares of our common stock and Series D preferred stock present in person or represented by proxy and voting on the matter, voting as a single class and on an as-converted basis, is required for approval of this Proposal Four.

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PROPOSAL FIVE

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The audit committee of our board of directors has selected the firm of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2013. Ernst & Young LLP has served as our independent accountants since 2002. Although stockholder approval of the audit committee s selection of Ernst & Young LLP is not required by law, our board of directors believes that it is advisable to give stockholders an opportunity to ratify this selection. If this proposal is not approved at the 2013 annual meeting, the audit committee of our board of directors may reconsider its selection.

Representatives of Ernst & Young LLP are expected to be present at the 2013 annual meeting. They will have the opportunity to make a statement if they desire to do so and will also be available to respond to appropriate questions from stockholders.

Recommendation of the Board of Directors and Required Vote

Our board of directors recommends that you vote FOR the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2013.

The affirmative vote of the stockholders holding a majority of the issued and outstanding shares of our common stock and Series D preferred stock present in person or represented by proxy and voting on the matter, voting as a single class and on an as-converted basis is required for approval of this Proposal Five.

ACCOUNTING MATTERS

Report of the Audit Committee

The audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2012 and discussed them with our management and our registered public accounting firm.

The audit committee has also received from, and discussed with, our registered public accounting firm various communications that our registered public accounting firm is required to provide to the audit committee, including the matters required to be discussed by the Statement on Auditing Standards No. 61, as amended (AICPA, *Professional Standards*, Vol. 1, AU section 380), as adopted by the Public Company Accounting Oversight Board in Rule 3200T.

The audit committee has received from Ernst & Young LLP the letter and other written disclosures required by applicable requirements of the Public Company Accounting Oversight Board regarding its communication with the audit committee concerning independence, and has discussed with Ernst & Young LLP its independence from the Company. The audit committee has also considered whether the provision of other non-audit services by Ernst & Young LLP is compatible with maintaining their independence.

Based on the review and discussions referred to above, the audit committee recommended to our board of directors that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2012.

By the audit committee of the board of directors,

William S. Reardon, *Chairman*

C. Keith Hartley

Robert W. Karr

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Independent Registered Public Accounting Firm Fees

We paid Ernst & Young LLP a total of $338,325 for professional services rendered for the year ended December 31, 2012 and $372,500 for professional services rendered for the year ended December 31, 2011. The following table provides information about these fees.

Fee Category	2012	2011
Audit Fees	$ 314,000	$ 351,750
Audit-Related Fees		
Tax Fees	24,325	20,750
All Other Fees		
Total Fees	$ 338,325	$ 372,500

Audit Fees

Audit fees consist of fees for the audit of our financial statements, the audit of our internal control over financial reporting, the review of the interim financial statements included in our quarterly reports on Form 10-Q, and other professional services provided in connection with statutory and regulatory filings or engagements.

Audit-Related Fees

Audit-related fees consist of fees for assurance and related services that are reasonably related to the performance of audits and reviews of our financial statements that are not reported under Audit Fees. These services include consultations regarding internal controls, financial accounting and reporting standards.

Tax Fees

Tax fees consist of fees for tax compliance, tax advice and tax planning services. Tax compliance services, which relate to preparation of tax returns, accounted for $20,000 of the total tax fees billed in 2012 and 2011. Tax advice and tax planning services relate to consultations on our net operating loss carry forwards, collaboration agreements and stock option exercises.

All Other Fees

Ernst & Young LLP did not collect fees for any other services for 2012 or 2011.

Our audit committee believes that the non-audit services described above did not compromise Ernst & Young LLP s independence. Our audit committee charter, which you can find by clicking Investors and Corporate Governance on our website, www.iderapharma.com, requires that all proposals to engage Ernst & Young LLP for services, and all proposed fees for these services, be submitted to the audit committee for approval before Ernst & Young LLP may provide the services.

Pre-Approval Policies and Procedures

Our audit committee has adopted policies and procedures relating to the approval of all audit and non-audit services that are to be performed by our registered public accounting firm. This policy generally provides that we will not engage our registered public accounting firm to render audit or non-audit services unless the service is specifically approved in advance by the audit committee or the engagement is entered into pursuant to the pre-approval procedures described below.

From time to time, the audit committee may pre-approve specified types of services that are expected to be provided to us by our registered public accounting firm during the next 12 months. Any such pre-approval is detailed as to the particular service or type of services to be provided and is also generally subject to a maximum dollar amount. All of the services described above under the headings Audit-Related Fees, Tax Fees and All Other Fees were pre-approved by our audit committee.

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PROPOSAL SIX

ELECTION OF DIRECTORS

General Information

Article ELEVENTH of our Restated Certificate of Incorporation currently divides our board of directors into three classes (Class I, Class II and Class III). Each member of a class is elected for a three-year term, with the terms staggered so that approximately one-third of our directors stand for election at each annual meeting of stockholders. There are currently two Class I directors, whose terms expire at our 2014 annual meeting of stockholders; two Class II directors, whose terms expire at our 2015 annual meeting of stockholders; and three Class III directors, whose terms expire at the 2013 annual meeting. As described in Proposal One set forth elsewhere in this proxy statement, in connection with our Series E preferred stock financing we agreed to submit a proposal to our stockholders at the 2013 annual meeting to approve an amendment to our Restated Certificate of Incorporation to declassify our board of directors. Our board of directors is recommending that our stockholders approve Proposal One.

Our current Class III directors, whose terms are expiring at the 2013 annual meeting, are Sudhir Agrawal, D. Phil., Eve E. Slater, M.D. and Youssef El Zein. Our board of directors, on the recommendation of our nominating and corporate governance committee, has nominated Dr. Agrawal, Dr. Slater and Mr. El Zein for election to our board of directors at the 2013 annual meeting. The persons named in the enclosed proxy card will vote to elect Dr. Agrawal, Dr. Slater and Mr. El Zein to our board of directors unless you indicate that you withhold authority to vote for the election of any or all nominees. You may not vote for more than three directors. Each of the nominees is presently a director and each has indicated a willingness to serve as a director, if elected. If a nominee becomes unable or unwilling to serve, however, the persons acting under the proxy may vote for substitute nominees selected by the board of directors.

The term of office as to which Dr. Agrawal, Dr. Slater and Mr. El Zein will be elected at the 2013 annual meeting depends on the outcome of the stockholders vote on Proposal One:

If Proposal One, as described in greater detail set forth elsewhere in this proxy statement, is approved by our stockholders at the 2013 annual meeting, Dr. Agrawal, Dr. Slater and Mr. El Zein will hold office until our 2014 annual meeting of stockholders and until their respective successors are elected and qualified or until such director s earlier resignation, death or removal.

If Proposal One, as described in greater detail set forth elsewhere in this proxy statement, is not approved by our stockholders at the 2013 annual meeting, Dr. Agrawal, Dr. Slater and Mr. El Zein will hold office until our 2016 annual meeting of stockholders and until their respective successors are elected and qualified or until such director s earlier resignation, death or removal.

Information about our Directors

Set forth below are the names of each of the nominees for election to our board of directors, the names of each of our other continuing directors, the years in which each first became a director, their ages as of May 15, 2013, their positions and offices with our company, their principal occupations and business experience during at least the past five years and the names of other public companies for which they currently serve, or have served within the past five years, as a director. We have also included information about each director s specific experience, qualifications, attributes or skills that led our board of directors to conclude that such individual should serve as one of our directors. We also believe that all of our directors, including our nominees, have a reputation for integrity, honesty and adherence to high ethical standards. They each have demonstrated business acumen and an ability to exercise sound judgment, as well as a commitment of service to Idera and our board of directors.

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Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the election of Dr. Agrawal, Dr. Slater and Mr. El Zein.

The affirmative vote of the stockholders holding a plurality of the votes cast by holders of our common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, is required for the approval of this Proposal Six.

Class III Nominees Terms to Expire in 2014 or 2016

Sudhir Agrawal, D. Phil. **Director since 1993**

Dr. Agrawal, age 59, has been the chairman of our board of directors since September 2010, our President since September 2008 and our Chief Executive Officer since August 2004. He also served as our Chief Scientific Officer from January 1993 until September 2010, as our President from February 2000 to October 2005 and as Acting Chief Executive Officer from February 2000 until September 2001. Dr. Agrawal joined us in 1990 and served in various capacities before his appointment as Chief Scientific Officer, including Vice President of Discovery and Senior Vice President of Discovery. Prior to joining us, Dr. Agrawal served as a Foundation Scholar at the Worcester Foundation for Experimental Biology and carried out his post-doctoral research at the Medical Research Council s Laboratory of Molecular Biology in Cambridge, England from 1985 to 1986. We believe that Dr. Agrawal s qualifications to sit on our board of directors include his unique insights into our challenges, opportunities and operations that he has as a result of the roles he has played with us since our founding, including scientific founder, chief scientific officer, chief executive officer and chairman.

Eve E. Slater, M.D. **Director since 2010**

Dr. Slater, age 67, is currently Associate Professor of Clinical Medicine at Columbia University College of Physicians and Surgeons, where she has taught in various positions since 1983. Dr. Slater was Senior Vice President, Worldwide Policy at Pfizer, Inc. from May 2007 until June 2009. Dr. Slater was the Assistant Secretary for Health, United States Department of Health and Human Services from 2002 until 2003, and was the Acting Assistant Secretary for Health from 2001 until her confirmation by the United States Senate in 2002. Dr. Slater held senior management positions at Merck Research Laboratories from 1983 to 2001, including Senior Vice President of External Policy, Vice President of Corporate Public Affairs, Senior Vice President of Clinical and Regulatory Development, Executive Director of Biochemistry and Molecular Biology, and Senior Director of Biochemical Endocrinology. Dr. Slater was trained in Internal Medicine and Cardiology at Massachusetts General Hospital, is board certified in Internal Medicine and Cardiology and is a Fellow of the American College of Cardiology. We believe that Dr. Slater s qualifications to sit on our board of directors include her extensive scientific and medical background, significant public company board experience, and years of service with pharmaceutical companies and governmental institutions.

Youssef El Zein **Director since 1992**

Mr. El Zein, age 64, has been the Managing Partner of Pillar Invest Corporation, a Cayman Island company that has founded and is the General Partner of a family of funds, including Pillar Pharmaceuticals I, L.P. and Pillar Pharmaceuticals II, L.P. since 2011. Mr. El Zein has been the chairman and CEO of Pillar Invest (offshore) SAL since 2009. Mr. El Zein has been managing partner of Pillar Investment Limited, a private investment firm, since 1991. Mr. El Zein obtained his Bachelor of Arts in Economics from the American University of Beirut in 1970 and a postgraduate degree in Economics from St. Catherine s College, Oxford University in 1973. We believe that Mr. El Zein s qualifications to sit on our board of directors include his knowledge of our industry, his financial experience and significant role in various financings we have conducted recently and during his 20 years of service on our board of directors.

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Continuing Members of the Board of Directors

Class I Directors Terms to Expire in 2014

C. Keith Hartley **Director since 2000**

Mr. Hartley, age 70, has been President of Hartley Capital Advisors, a financial consulting firm, since June 2000. Mr. Hartley was Managing Partner of Forum Capital Markets LLC, an investment banking firm, from August 1995 to May 2000. Mr. Hartley also serves as a director of Universal Display Corporation, a publicly traded company that develops organic light emitting diodes for use in flat panel displays and lighting applications. We believe that Mr. Hartley s qualifications to sit on our board of directors include his business and finance background, his investment banking background and knowledge of the capital markets and his relationship with us since 1997 when his investment banking firm led a debt financing for us.

William S. Reardon, C.P.A. **Director since 2002**

Mr. Reardon, age 66, has been lead independent director of our board of directors since September 2010. He was an audit partner at PricewaterhouseCoopers LLP, where he led the Life Science Industry Practice for New England and the Eastern United States from 1986 until his retirement from the firm in July 2002. Mr. Reardon served on the board of the Emerging Companies Section of the Biotechnology Industry Organization from June 1998 to June 2000 and the board of directors of the Massachusetts Biotechnology Council from April 2000 to April 2002. He serves as a director of Synta Pharmaceuticals, Inc., a publicly-traded biopharmaceutical company, and he served as a director of Oscient Pharmaceuticals Corporation, a publicly-traded pharmaceutical company from March 2003 to March 2010. Mr. Reardon has also served as a trustee of closed-end mutual funds H&Q Healthcare Investors and H&Q Life Sciences Investors since April 2010. We believe that Mr. Reardon s qualifications to sit on our board of directors include his accounting and financial experience, including as a partner at a leading accounting firm leading its life science practice, his role in keeping the board of directors and senior management team abreast of current accounting regulations and his experience as a member of several boards of directors of biotechnology companies. Additionally, we value Mr. Reardon s role in leading the board on matters of corporate governance, both as lead independent director and prior to his appointment to that position.

Abdul-Wahab Umari **Director since 2012**

Mr. Umari, age 45, has been a managing partner of Pillar Investment Limited, a private investment firm, since 2003. Prior to joining Pillar, Mr. Umari was the Founder, Chairman and Chief Executive Officer of Transmog Inc. SAL, a telecommunications company headquartered in Lebanon from 1995 to 2001. From 1989 to 1993, Mr. Umari was a Lead Systems Engineer at Bechtel Power Corporation in Gaithersburg, Maryland. Mr. Umari was a member of the external advisory board of the American University of Beirut from 1998 to 2008, and he has served on the advisory board of Foundation Henri Cartier-Bresson, a non-profit organization, since 2003. Mr. Umari obtained an M.B.A. from New York University s Leonard N. Stern School of Business in 1995. Mr. Umari completed his undergraduate studies in Mechanical Engineering at Boston University in 1990. We believe that Mr. Umari s qualifications to sit on our board of directors include his knowledge of our industry, his financial experience and his role in various financings that we have conducted.

Class II Directors Terms to Expire in 2015

Robert W. Karr, M.D. **Director since 2005**

Dr. Karr, age 64, has been Managing Member of StartUp Partners International LLC, a consulting firm serving pharmaceutical and biotechnology clients, since January 2010. Dr. Karr has served as managing director of Karr Pharm Consulting LLC since January 2008. Dr. Karr served as our President from December 2005 until December 2007. Prior to joining us, Dr. Karr was an independent consultant. From June 2000 through December

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2004, Dr. Karr was a senior executive in Global Research & Development for Pfizer, Inc., a pharmaceutical company, where he served as Senior Vice President, Strategic Management from 2003 to 2004 and Vice President, Strategic Management from 2000 to 2003. Prior to its merger with Pfizer, Dr. Karr served as Vice President, Research & Development Strategy for Warner-Lambert Company, a pharmaceutical company. He also served on the board of directors of GTx, Inc., a publicly-traded biotechnology company, from 2005 to 2011. We believe that Dr. Karr s qualifications to sit on our board of directors include his broad managerial and scientific experience in the pharmaceutical industry, his understanding of our company given his role as our former President and his continuing role as a director, and his contribution to the board of directors in discussions of our drug discovery programs, clinical development strategy and clinical programs.

Malcolm MacCoss, Ph.D. **Director since 2010**

Dr. MacCoss, age 65, founded Bohicket Pharma Consulting LLC in January 2010. In this position, Dr. MacCoss consults for several pharmaceutical companies worldwide on drug discovery issues. Previously, Dr. MacCoss served as the Group Vice President for Chemical Research at the Schering-Plough Research Institute of Schering-Plough Corporation, a pharmaceutical company that is now part of Merck & Co., Inc., from August 2008 to January 2010. In this role he served as the Head of Chemistry at the Schering-Plough Kenilworth, New Jersey site and as the chair of the Schering-Plough Global Chemistry Council, a forum for formulating global chemistry strategies. From 1999 to August 2008, Dr. MacCoss served as Vice President, Basic Chemistry at the Rahway, New Jersey site of Merck Research Laboratories, of Merck & Co., Inc., a pharmaceutical company. He also served as the Vice President of Basic Chemistry and Drug Discovery Sciences, as the Deputy Site-Head of the Rahway site and as the Chairman of the Merck World-Wide Chemistry Council. Dr. MacCoss is a Fellow of the Royal Society of Chemistry, and in 2009 he was admitted into the American Chemical Society Medicinal Chemistry Hall of Fame. In 2010 he received the ACS Division of Medicinal Chemistry National Award. He also serves on the Advisory Committee of the Executive Dean for the School of Arts and Sciences, Rutgers University. We believe that Dr. MacCoss qualifications to sit on our board of directors include his extensive scientific background, his 20 plus years experience with pharmaceutical companies, and his contribution to the board of directors in discussions of our drug discovery programs, clinical development strategy and clinical programs.

Director Compensation

We use a combination of cash and equity-based compensation to attract and retain candidates to serve on our board of directors. We do not compensate directors who are also our employees for their service on our board of directors. As a result, Dr. Agrawal does not receive any compensation for his service on our board of directors, including any compensation he might otherwise receive for his service as chairman of the board of directors. We periodically review our cash and equity-based compensation for non-employee directors.

Under our director compensation program, we pay our non-employee directors retainers in cash. Each director receives a cash retainer for service on the board of directors and for service on each committee on which the director is a member. The chairmen of the board and of each committee receive higher retainers for such service. These fees are payable quarterly in arrears. The fees paid to non-employee directors for service on the board of directors and for service on each committee of the board of directors on which the director is a member are as follows:

	Member Annual Fee	Chairman Annual Fee
Board of Directors	$ 35,000	$
Audit Committee	$ 7,000	$ 15,000
Compensation Committee	$ 7,000	$ 15,000
Nomination and Corporate Governance Committee	$ 3,500	$ 7,500
Scientific Committee(1)	$ 7,000	$ 15,000
Service as Lead Director	$ 17,500	$

(1) This committee was eliminated as of January 1, 2013.

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We also reimburse our directors for travel and other related expenses for attendance at meetings.

Our director compensation program includes a stock-for-fees policy, under which directors have the right to elect to receive common stock in lieu of cash fees. These shares of common stock are issued under our 2008 Stock Incentive Plan. The number of shares to be issued to participating directors is determined on a quarterly basis by dividing the cash fees to be paid through the issuance of common stock by the fair market value of our common stock, which is the closing price of our common stock, on the first business day of the quarter following the quarter in which the fees were earned. In 2012, Dr. MacCoss received 1,216 shares of our common stock in lieu of $1,425 in cash fees. No other director elected to receive common stock in lieu of cash fees during 2012.

Under our director compensation program, upon their initial election to the board of directors, new non-employee directors receive an initial option grant to purchase 30,000 shares, and all non-employee directors receive an annual option grant to purchase 20,000 shares. The annual grants are made on the date of the annual meeting of stockholders.

These options vest quarterly over three years from the date of grant, subject to continued service as a director, and are granted under our 2008 Stock Incentive Plan. These options are granted with exercise prices equal to the fair market value of our common stock, which is the closing price of our common stock on the date of grant, and become immediately exercisable in full if there is a change in control of our company.

Under our retirement policy for non-employee members of the board, if a non-employee director is deemed to retire, then:

- all outstanding options held by such director will automatically vest in full; and
- the period during which such director may exercise the options will be extended to the expiration of the option under the plan.

Under the policy, a member of the board of directors will be deemed to have retired if:

- the director resigns from the board or determines not to stand for re-election and has served as a director for more than 10 years; or
- the director does not stand for re-election or is not nominated for re-election due to the fact that he or she is or will be older than 75 at the end of such director s term.

The following table sets forth a summary of the compensation we paid to our non-employee directors who served on our board in 2012.

DIRECTOR COMPENSATION FOR 2012

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)(1)	Total ($)
Youssef El Zein	$ 53,500	$ 9,882	$ 63,382
C. Keith Hartley	$ 49,500	$ 9,882	$ 59,382
Robert W. Karr	$ 49,000(2)	$ 9,882	$ 58,882
Malcolm MacCoss	$ 57,000(2)(3)	$ 9,882	$ 66,882
William S. Reardon	$ 71,000	$ 9,882	$ 80,882
Eve E. Slater	$ 49,000(2)	$ 9,882	$ 58,882
Abdul-Wahab Umari(4)	$ 8,750	$ 10,770	$ 19,520

(1) These amounts represent the aggregate grant date fair value of option awards made to each listed director in 2012 as computed in accordance with Financial Accounting Standards Board Accounting Standards

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Codification Topic 718, Stock Compensation (ASC 718). These amounts do not represent the actual amounts paid to or realized by the directors during 2012. See Note 2(j) to the financial statements in our annual report on Form 10-K for the year ended December 31, 2012 regarding assumptions we made in determining the fair value of option awards. As of December 31, 2012, our non-employee directors held options to purchase shares of our common stock as follows: Mr. El Zein: 104,752; Mr. Hartley: 107,252; Dr. Karr: 185,375; Dr. MacCoss: 66,000; Mr. Reardon: 107,252; Dr. Slater: 56,000; and Mr. Umari: 30,000.

(2) These amounts include cash meeting fees for service on our scientific committee during 2012. Our scientific committee was eliminated as of January 1, 2013.

(3) Includes cash meeting fees of $1,425 in lieu of which of Dr. MacCoss elected to receive 1,216 shares of our common stock.

(4) Mr. Umari joined our board of directors in November 2012.

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CORPORATE GOVERNANCE INFORMATION

Board of Directors

Our board of directors is responsible for establishing our broad corporate policies and overseeing the management of our company. Our chief executive officer and our other executive officers are responsible for our day-to-day operations. Our board evaluates our corporate performance and approves, among other things, our corporate strategies and objectives, operating plans, major commitments of corporate resources and significant policies. Our board also evaluates and appoints our executive officers.

Our board of directors met 21 times during 2012, including regular, special and telephonic meetings. Except for Dr. James B. Wyngaarden, who resigned from our board of directors in February 2012, each director who served as a director during 2012 attended at least 75% of the total number of board meetings held during 2012 while he or she was a director and of the total number of meetings held by all board committees on which he or she served during 2012.

Board Leadership Structure

Our board does not have a policy on whether the offices of chairman of the board and chief executive officer should be separate and, if they are to be separate, whether the chairman of the board should be selected from among the independent directors or should be an employee of our company. Our board believes that it should have the flexibility to make these determinations at any given point in time in the way that it believes best to provide appropriate leadership for our company at that time. The roles of chairman of the board and chief executive officer were held by the same person from August 1991 until February 2000. From February 2000 until September 2010, the positions of chairman of the board of directors and chief executive officer were separate. Since September 2010, the positions of chairman of the board and chief executive officer have both been held by Dr. Agrawal. Concurrent with the appointment of Dr. Agrawal as chairman, Mr. Reardon was appointed as lead independent director.

In September 2010, the nominating and corporate governance committee and the full board discussed whether to appoint a new independent chairman, to unify the chairman and chief executive officer positions and/or to appoint a lead independent director. The committee and the board recognized that our bylaws do not require that our chairman and chief executive officer positions be separate, that no single leadership model is right for all companies and at all times, and that depending on the circumstances, other leadership models, such as a combined chairman and chief executive officer, might be appropriate. The committee and the board also noted that pursuant to our corporate governance guidelines, if the chairman is not an independent director, the board may elect a lead director from its independent directors. In such case, the chairman and chief executive officer would consult periodically with the lead director on board matters and on issues facing our company. In addition, the lead director would serve as the principal liaison between the chairman of the board and the independent directors and would preside at any executive session of independent directors.

The nominating and corporate governance committee recommended, and the board approved, Dr. Agrawal, our chief executive officer, as chairman of the board and Mr. Reardon as lead independent director. The board believes that Dr. Agrawal s deep knowledge of our industry and our company, his scientific leadership of our company since 1990 and his strategic leadership of our company make him best suited to serve as both chairman and chief executive officer. At the same time, the board believes that the lead independent director function and its committees of independent directors provide the appropriate level of independent oversight. The board also believes that the lead independent director position includes responsibilities similar to those performed by a chairman of the board of directors who is not also our chief executive officer. The board believes that Mr. Reardon, as lead independent director, provides appropriate balance as a corporate governance matter and that the current structure is in the best interest of stockholders at this time.

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Board s Role in Risk Oversight

Our board of directors, as a whole, has responsibility for risk oversight, with reviews of certain areas being conducted by relevant committees that report directly to the board of directors. The oversight responsibility of the board of directors and its committees is enabled by management reporting processes that are designed to provide visibility to the board of directors about the identification, assessment and management of critical risks and management s risk mitigation strategies. These areas of focus include competitive, economic, operational, financial (accounting, credit, liquidity and tax), legal, regulatory, compliance, health, safety, environmental, political and reputational risks. Our board of directors regularly reviews information regarding our strategy, operations, credit and liquidity, as well as the risks associated with each. Our compensation committee is responsible for overseeing risks relating to our executive compensation plans and arrangements. Our audit committee is responsible for overseeing financial risks and risks associated with related party transactions. Our nominating and corporate governance committee is responsible for overseeing risks associated with the independence of the board of directors. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors is regularly informed through committee reports about such risks.

Board Committees

Our board of directors has established four standing committees: audit, compensation, nominating and corporate governance and scientific. Each of our audit, compensation and nominating and corporate governance committees operates under a charter that has been approved by our board of directors. Our scientific committee was eliminated effective January 1, 2013. Our board of directors has also adopted corporate governance guidelines to assist our board in the exercise of its duties and responsibilities. Current copies of the charters for the audit, compensation and nominating and corporate governance committees and the corporate governance guidelines are posted on our website, www.iderapharma.com, and can be accessed by clicking Investors and Corporate Governance.

Audit Committee

Our audit committee s responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our registered public accounting firm, including through the receipt and consideration of certain reports from such accounting firm;
- reviewing and discussing with management and the registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk management policies;
- establishing procedures for the receipt and retention of accounting related complaints and concerns;
- reviewing and approving related party transactions;
- meeting independently with our registered public accounting firm and management; and

preparing the audit committee report required by SEC rules, which is included in the section of this proxy statement entitled Accounting Matters Report of the Audit Committee.

The current members of our audit committee are Mr. Reardon (Chairman), Mr. Hartley and Dr. Karr. Our board of directors has determined that all three members of the audit committee are audit committee financial experts within the meaning of SEC rules and regulations. During 2012, our audit committee held six meetings in person or by teleconference.

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Compensation Committee

Our compensation committee s responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to compensation for our executive officers;
- determining the compensation of our senior executives;
- overseeing the evaluation of our senior executives;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to the board of directors with respect to director compensation;
- reviewing and discussing annually with management the compensation discussion and analysis required by the SEC rules and included in this proxy statement; and
- preparing the compensation committee report required by SEC rules, which is included in the section of this proxy statement entitled Executive Compensation Compensation Committee Report.

The current members of our compensation committee are Dr. MacCoss (Chairman), Mr. El Zein, and Dr. Slater. During 2012, the compensation committee held four meetings in person or by teleconference.

The processes and procedures followed by our compensation committee in considering and determining director and executive compensation are described above under the heading Executive Compensation.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee s responsibilities include:

- identifying individuals qualified to become members of our board of directors;
- recommending to our board of directors the persons to be nominated for election as directors or to fill vacancies on our board of directors, and the persons to be appointed to each of the committees of the board of directors;
- reviewing and making recommendations to the board of directors with respect to management succession planning;
- developing and recommending to the board of directors corporate governance principles; and

overseeing periodic evaluations of the board of directors.

The current members of our nominating and corporate governance committee are Mr. Hartley (Chairman), Mr. El Zein and Mr. Reardon. During 2012, the nominating and corporate governance committee held five meetings in person or by teleconference.

The processes and procedures followed by our nominating and corporate governance committee in identifying and evaluating director candidates are described below under the heading Director Nomination Process.

Scientific Committee

The responsibilities of our scientific committee, which was eliminated effective January 1, 2013, included:

assisting the board of directors in overseeing our science and drug development programs; and

advising the board of directors with respect to strategic and tactical scientific issues.

During 2012, the scientific committee held two meetings in person or by teleconference.

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Director Independence

Under applicable rules of the Nasdaq Stock Market, a director will only qualify as an independent director if, in the opinion of our board of directors, that person does not have a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Our board of directors has determined that Mr. Hartley, Dr. Karr, Dr. MacCoss, Mr. Reardon, Dr. Slater, Mr. Umari and Mr. El Zein and all of the members of each of the audit, compensation and nominating and corporate governance committees are independent as defined under applicable rules of the Nasdaq Stock Market including, in the case of all members of the audit committee, the independence requirements contemplated by Rule 10A-3 under the Securities Exchange Act of 1934, as amended.

Director Nomination Process

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to members of our board of directors and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates and interviews of selected candidates by members of our nominating and corporate governance committee and our board of directors. The nominating and corporate governance committee has from time to time used a third-party recruiting firm to identify and interview potential candidates.

In considering whether to recommend any particular candidate for inclusion in the board s slate of recommended director nominees, the nominating and corporate governance committee will apply the criteria set forth in our corporate governance guidelines. These criteria include the candidate s:

- business acumen;
- knowledge of our business and industry;
- age;
- experience;
- diligence;
- conflicts of interest;
- ability to act in the interests of all stockholders; and
- in the case of the renomination of existing directors, performance on our board of directors and on any committee of which the director was a member.

Our corporate governance guidelines also provide that candidates should not be discriminated against on the basis of race, religion, national origin, sex, sexual orientation, disability or any other basis proscribed by law and that our nominating and corporate governance committee should consider the value of diversity of the board of directors when evaluating particular candidates. The committee has not adopted any formal or informal diversity policy and treats diversity as one of the criteria to be considered by the committee. The committee does not assign specific weights to particular criteria that the committee reviews and no particular criterion is a prerequisite for the consideration of any prospective nominee. We believe that the backgrounds and qualifications of our directors, considered as a group, should provide a composite and diverse mix of experience, knowledge and abilities that will allow the board of directors to fulfill its responsibilities.

Stockholder Nominees

Stockholders may recommend individuals to the nominating and corporate governance committee for consideration as potential director candidates by submitting the individuals names, together with appropriate biographical information and background materials and a statement as to whether the stockholder or group of

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stockholders making the recommendation has beneficially owned more than 5% of our common stock for at least one year as of the date such recommendation is made, to Nominating and Corporate Governance Committee, c/o Secretary, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139. Assuming that appropriate biographical and background material has been provided on a timely basis, the nominating and corporate governance committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others. If the board of directors determines to nominate a stockholder-recommended candidate and recommends his or her election, then his or her name will be included in our proxy card for the next annual meeting.

Stockholders also have the right under our bylaws to nominate director candidates directly, without any action or recommendation on the part of the nominating and corporate governance committee or the board of directors, by following the procedures set forth in our bylaws, including advance notice requirements. Candidates nominated by stockholders in accordance with the procedures set forth in our bylaws will not be included in our proxy card for the next annual meeting. See Information about the 2013 annual meeting How and when may I submit a proposal for the 2014 annual meeting? for more information about these procedures.

Communicating with our Board of Directors

Our board of directors will give appropriate attention to written communications that are submitted by stockholders and will respond if and as appropriate. The chairman of the board of directors (if an independent director) or the lead independent director, if any, is primarily responsible for monitoring communications from stockholders and for providing copies or summaries to the other directors, as he or she considers appropriate.

Communications are forwarded to all directors if they relate to important substantive matters and include suggestions or comments that the chairman of the board of directors or lead independent director, as the case may be, considers to be important for the directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances and matters that involve repetitive or duplicative communications.

Stockholders who wish to send communications on any topic to the board of directors should address such communications to Board of Directors, c/o Secretary, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139.

Each communication from a stockholder should include the following information in order to permit stockholder status to be confirmed and to provide an address to forward a response if deemed appropriate:

- the name, mailing address and telephone number of the stockholder sending the communication;
- the number of shares held by the stockholder; and
- if the stockholder is not a record owner of our securities, the name of the record owner of our securities beneficially owned by the stockholder.

Director Attendance at Annual Meeting of Stockholders

Directors are responsible for attending the 2013 annual meeting. All directors attended the 2012 annual meeting of stockholders.

Compensation Committee Interlocks and Insider Participation

Our compensation committee currently consists of Mr. El Zein, Dr. MacCoss and Dr. Slater. No member of our compensation committee was at any time during 2012, or was formerly, an officer or employee of ours. No member of our compensation committee engaged in any related person transaction involving our company during 2012 other than

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Mr. El Zein. See Transactions with Related Persons for information about the terms of the transaction we engaged in with affiliates of Mr. El Zein. None of our executive officers has served as a director or member of the compensation committee (or other committee serving the same function as the compensation committee) of any other entity, while an executive officer of that other entity served as a director or member of our compensation committee.

Executive Officers of Idera

The following table sets forth the names, ages and positions of our executive officers as of May 15, 2013:

Name	Age	Position
Sudhir Agrawal, D. Phil.*	59	Chairman of the Board of Directors, President and Chief Executive Officer
Louis J. Arcudi, III, M.B.A.	52	Senior Vice President of Operations, Chief Financial Officer, Treasurer and Secretary
Timothy M. Sullivan, Ph.D.	58	Vice President, Development Programs and Alliance Management
Robert D. Arbeit, M.D.	65	Vice President, Clinical Development

* Dr. Agrawal is a continuing member of our board of directors. See Proposal Six Election of Directors for more information about Dr. Agrawal.

Louis J. Arcudi, III, M.B.A., has been our Senior Vice President of Operations since April 2011 and our Chief Financial Officer, Treasurer and Secretary since he joined us in December 2007. Prior to joining us, Mr. Arcudi served as Vice President of Finance and Administration and Treasurer for Peptimmune, Inc., a biotechnology company, from 2003 to 2007. From 2000 to 2003 Mr. Arcudi was Senior Director of Finance and Administration at Genzyme Molecular Oncology Corporation, a division of Genzyme Corporation, a biotechnology company. He was Director of Finance Business Planning and Operations International at Genzyme from 1998 to 2000. Prior to joining Genzyme, he held finance positions with increasing levels of responsibility at Cognex Corporation, a supplier of machine vision systems, Millipore Corporation, a provider of technologies, tools and services for bioscience, research and biopharmaceutical manufacturing, and General Motors Corporation, an automobile manufacturer. Mr. Arcudi received a M.B.A. from Bryant College and a B.S. in accounting and information systems from the University of Southern New Hampshire.

Timothy M. Sullivan, Ph.D., has been our Vice President, Development Programs and Alliance Management since April 2010 and was our Vice President, Development Programs from August 2004 until April 2010. He joined us in 2002 as Senior Director, Preclinical Drug Development. His prior professional experience includes positions as Executive Director of Non-clinical Drug Safety Evaluation for Purdue Pharma L.P., a pharmaceutical company, from 1999 to 2002, and Vice President of Eastern Operations for Oread, Inc., a contract drug development organization, from 1997 to 1999. Prior to 1997, Dr. Sullivan held a variety of technical management roles with other pharmaceutical companies and contract research organizations, including Adria, Battelle, Roma Toxicology Centre, and in veterinary medicine, including International Minerals & Chemical. Dr. Sullivan earned his B.S. in microbiology from Michigan State University in 1975. His graduate studies were at Purdue University, where he earned a M.S. degree in health physics in 1978 and a Ph.D. in toxicology in 1981.

Robert D. Arbeit, M.D., joined us in August 2009 as Vice President, Clinical Development. Prior to joining us, Dr. Arbeit was Vice President, Clinical Development, from July 2007 to July 2009, and Executive Director, Clinical Development, from February 2003 until July 2007, at Paratek Pharmaceuticals, Inc., a pharmaceutical company. Prior to that, from January 2001 to January 2003, he served at Cubist Pharmaceuticals, Inc., a pharmaceutical company, as Executive Medical Director. From 1979 to 2000, Dr. Arbeit held positions with increasing levels of responsibility at the VA Medical Center in Boston, where his last position was Associate Chief of Staff for Research. Dr. Arbeit received his B.A. from Williams College and earned an M.D. at Yale University School of Medicine. He completed a medical residency at Yale-New Haven Hospital, CT and a Clinical Fellowship in Infectious Diseases at Beth Israel Hospital, Boston, MA.

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SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

On May 15, 2013, we had 45,163,330 shares of common stock issued and outstanding, 424,242 shares of Series E preferred stock issued and outstanding and 1,124,260 shares of Series D preferred stock issued and outstanding. The following table sets forth information we know about the beneficial ownership of our common stock, our Series E preferred stock and our Series D preferred stock, as of May 15, 2013, by:

- each person known by us to own beneficially more than 5% of the outstanding shares of our common stock;
- each person known to us to beneficially own more than 5% of the outstanding shares of our Series E preferred stock;
- each person known to us to beneficially own more than 5% of the outstanding shares of our Series D preferred stock;
- each of our directors;
- each of our named executive officers; and
- all directors and executive officers as a group.

We have determined beneficial ownership in accordance with the rules of the SEC, and the information in the table below is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership of a person includes any shares as to which such person has the sole or shared voting power or investment power. In addition, under such rules, beneficial ownership of a person includes any shares that such person has the right to acquire within 60 days after May 15, 2013 through the conversion of any convertible security or the exercise of any stock option, warrant or other right. These shares, however, are not considered outstanding when computing the percentage ownership of each other person.

Unless otherwise indicated in the footnotes to the table below, each stockholder named in the table has sole investment and voting power (or shares such power with his or her spouse) with respect to the shares shown as

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beneficially owned by them. The inclusion of any shares deemed beneficially owned does not constitute an admission of beneficial ownership of such shares.

Name and Address of Beneficial Owner(1)	Amount and Nature of Beneficial Ownership of Common Stock	% of Common Stock Beneficially Owned	Amount and Nature of Beneficial Ownership of Series D Preferred Stock	% of Series D Preferred Stock Beneficially Owned	Amount and Nature of Beneficial Ownership of Series E Preferred Stock	% of Series E Preferred Stock Beneficially Owned	% of Combined Voting Power of Series D Preferred Stock and Common Stock(2)
5% Stockholders							
Pillar Investment Entities c/o Pillar Invest Offshore SAL Starco Ctr Bloc B, 3rd Flr, Omar Daouk St. Beirut, M8 2020-3313	9,888,127(3)	19.99%(3)	1,124,260(4)	100%	424,242(5)	100%	19.99%(3)
Affiliates of Baker Brothers Advisors, LLC, 667 Madison Avenue, 21st Floor New York, NY 10065	4,500,000(6)	9.96%					8.75%(6)
Directors and Named Executive Officers							
Youssef El Zein	9,888,127(7)	19.99%(3)	1,124,260(8)	100%	424,242(9)	100%	19.99%(3)
Sudhir Agrawal, D. Phil.	1,512,427(10)	3.25%					*
Robert D. Arbeit, M.D.	167,777(11)	*					*
Louis J. Arcudi, III	364,863(12)	*					*
C. Keith Hartley	318,468(13)	*					*
Robert W. Karr, M.D.	165,925(14)	*					*
Malcolm MacCoss, Ph.D.	49,092(15)	*					*
William S. Reardon	89,517(16)	*					*
Eve E. Slater	36,001(17)	*					*
Timothy M. Sullivan, Ph.D.	350,881(18)	*					*
Abdul-Wahab Umari	51,117(19)	*					*
All current directors and executive officers as a group (11 individuals)	12,994,195(20)	24.89%	1,124,260(4)	100%	424,242(5)	100%	20.70%

* Less than 1%

(1) Except as otherwise noted, the address for each person listed above is c/o Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139.

(2) The percentage of the combined voting power of the Series D preferred stock and the common stock is calculated by dividing (a) the sum of the total number of shares of common stock owned by the stockholder and the total number of shares of common stock then issuable upon conversion of the Series D preferred stock owned by the stockholder by (b) the sum of the total number of shares of common stock outstanding and the total number of shares of common stock then issuable upon conversion of the Series D preferred stock outstanding. The sum of the total number of shares of common stock outstanding and the total number of shares of common stock then issuable upon conversion of the Series D preferred stock outstanding as of May 15, 2013 was 51,429,505. As of May 15, 2013, the Series E preferred stock is nonvoting stock.

(3) Consists of (i) 4,217,742 shares of common stock issuable upon conversion of 756,736 shares of Series D preferred stock held by Pillar Pharmaceuticals I, L.P., or Pillar I, (ii) 2,600,000 shares of common stock held by Pillar Pharmaceuticals III, L.P., or Pillar III, (iii) 2,400,000 shares of common stock held by

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Participations Besancon, or Besancon, and over which Pillar Invest Corporation has investment discretion, pursuant to an advisory agreement between Pillar Invest Corporation and Besancon, or the Advisory Agreement, (iv) 586,101 shares of common stock held directly by Mr. El Zein and (v) 84,284 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013 held by Mr. El Zein. As a result of the application of the Conversion Cap, as described below in this footnote, the table above does not include the following as being beneficially owned by the Pillar Investment Entities: (a) 2,048,433 shares of common stock issuable upon conversion of 367,524 shares of Series D preferred stock held by Pillar I; (b) 6,266,820 shares of common stock issuable upon conversion of 313,341 shares of Series E preferred stock held by Pillar Pharmaceuticals II, L.P., or Pillar II; (c) 2,218,020 shares of common stock issuable upon conversion of 110,901 shares of Series E preferred stock held by Besancon and over which Pillar Invest Corporation has investment discretion, pursuant to the Advisory Agreement; (d) 6,580,161 shares of common stock issuable upon exercise of warrants to purchase common stock held by Pillar II; (e) 4,728,921 shares of common stock issuable upon exercise of warrants to purchase common stock held by Besancon and over which Pillar Invest Corporation has investment discretion pursuant to the Advisory Agreement; (f) 4,386,408 shares of common stock issuable upon exercise of warrants to purchase common stock held by Pillar I; and (g) 2,600,000 shares of common stock issuable upon exercise of a warrant to purchase common stock held by Pillar III. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar I, Pillar II and Pillar III, and is a limited partner of Pillar I, Pillar II and Pillar III. Mr. El Zein expressly disclaims beneficial ownership over shares held directly by Pillar I, Pillar II, Pillar III and indirectly by Pillar Invest Corporation, including the shares of Series E preferred stock and warrants issued in connection therewith held by Besancon, or the Besancon Securities. Pillar I, Pillar II and Pillar III expressly disclaim beneficial ownership of the Besancon Securities. Besancon is an investment fund having no affiliation with Mr. El Zein, Pillar I, Pillar II, Pillar III or Pillar Invest Corporation. The information in this footnote is based on a Schedules 13D/A filed with the SEC on November 16, 2012 and a Schedule 13D filed with the SEC on November 14, 2011. Pursuant to the terms of the Series D preferred stock and the warrants to purchase common stock issued in connection with the issuance of the Series D preferred stock, the Series E preferred stock and the warrants to purchase common stock issued in connection with the issuance of the Series E preferred stock, the shares of Series E preferred stock and Series D preferred stock cannot be converted by the holder thereof into shares of our common stock and the warrants issued to the Pillar Investment Entities cannot be exercised by the holders thereof with respect to any portion of the shares, to the extent that such conversion or exercise would result in the Pillar Investment Entities beneficially owning more than 19.99% of (x) the number of shares of common stock outstanding or (y) the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the Series E warrants and the Series D warrants. This limitation on conversion and exercise of the Series D preferred stock, Series E preferred stock and warrants issued to the Pillar Investment Entities is referred to in this footnote as the Conversion Cap. In addition, pursuant to the terms of the purchase agreements under which such securities were acquired, the purchasers have each agreed that for so long as such purchaser and its affiliates beneficially own more than 19.99% of our outstanding common stock, such purchase, and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% of the outstanding common stock (including the shares of common stock issuable upon conversion of the Series E preferred stock and the Series D preferred stock) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock vote on such matter. See Transactions with Related Persons for further information about the Series E preferred stock and warrants issued in connection with the issuance of the Series E preferred stock and the terms of the purchase agreement between Pillar II and us and information about the Series D preferred stock and warrants issued in connection with the issuance of the Series D preferred stock and the terms of the purchase agreement between Pillar I and us.

(4) Consists of shares of preferred stock held by Pillar I.

(5) Consists of shares of preferred stock held by Pillar II and the preferred stock held by Besancon.

(6) Consists of (i) 498,555 shares of our common stock owned by 667, L.P., (ii) 3,904,200 shares of our common stock owned by Baker Brothers Life Sciences, L.P. and (iii) 97,245 shares of our common stock

owned by 14159, L.P., and excludes (a) warrants to purchase up to an aggregate of 4,003,137 shares of our common stock owned by 667, L.P., (b) warrants to purchase up to an aggregate of 31,348,690 shares of our common stock owned by Baker Brothers Life Sciences, L.P. and (c) warrants to purchase up to an aggregate of 780,827 shares of our common stock owned by 14159, L.P.

(7) Consists of shares reported under footnote 3 to this table above. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar I, Pillar II and Pillar III, and is a limited partner of Pillar I, Pillar II and Pillar III. Accordingly, Mr. El Zein may be deemed to have sole power to direct the voting and disposition of the shares of common stock held directly by Pillar I, Pillar II and Pillar III and indirectly by Pillar Invest Corporation, including the Besancon Securities. Mr. El Zein expressly disclaims beneficial ownership over shares held directly by Pillar I, Pillar II, Pillar III and indirectly by Pillar Invest Corporation, including the Besancon Securities, except to the extent of his pecuniary interest therein, if any, by virtue of his ownership interest in Pillar Invest Corporation and his limited partnership interest in Pillar I and Pillar II.

(8) Consists of shares of preferred stock held by Pillar I. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar I, and is a limited partner of Pillar I. Accordingly, Mr. El Zein may be deemed to have sole power to direct the voting and disposition of the shares of preferred stock held directly by Pillar I. Mr. El Zein expressly disclaims beneficial ownership of any shares of preferred stock held directly by Pillar I or indirectly by Pillar Invest Corporation.

(9) Consists of shares of preferred stock held by Pillar II. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar II, and is a limited partner of Pillar II. Accordingly, Mr. El Zein may be deemed to have sole power to direct the voting and disposition of the shares of preferred stock held directly by Pillar II. Mr. El Zein expressly disclaims beneficial ownership of any shares of preferred stock held directly by Pillar II or indirectly by Pillar Invest Corporation, including the Besancon Securities.

(10) Includes 1,386,150 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(11) Includes 160,217 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(12) Includes 358,998 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(13) Includes 84,284 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013. Also includes 92,434 shares of common stock and a warrant to purchase 90,000 shares of common stock held in a Defined Benefit Pension Plan, owned and controlled solely by Mr. Hartley.

(14) Includes 549 shares of common stock held by the Robert W. Karr Revocable Trust. Dr. Karr disclaims beneficial ownership of all shares held in this trust. Also includes 165,376 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(15) Includes 46,001 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(16) Includes 84,284 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(17) Consists of shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(18) Includes 325,967 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(19) Includes 5,000 shares of common stock subject to outstanding stock options that are exercisable within 60 days after May 15, 2013.

(20) Includes 2,736,562 shares of common stock subject to outstanding stock options held by the directors and executive officers as a group that are exercisable within 60 days after May 15, 2013, shares reported in clauses (i) through (iii) of the first sentence of footnote 3 to this table above and shares reported in the second sentence of footnote 14 to this table above.

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PROPOSAL SEVEN

APPROVE THE ISSUANCE AND SALE BY US TO CERTAIN AFFILIATES OF PILLAR INVEST CORPORATION (INCLUDING OUR PRIOR ISSUANCES AND SALES OF OUR SECURITIES TO SUCH AFFILIATES IN NOVEMBER 2011 AND NOVEMBER 2012) OF A NUMBER OF SHARES OF OUR COMMON STOCK (INCLUDING SECURITIES CONVERTIBLE INTO OR EXERCISABLE FOR SHARES OF OUR COMMON STOCK) THAT IS GREATER THAN 19.99% OF THE TOTAL NUMBER OF ISSUED AND OUTSTANDING SHARES OF COMMON STOCK AND OF THE OUTSTANDING VOTING POWER OF OUR SECURITIES AFTER SUCH ISSUANCE AND SALE IN ACCORDANCE WITH NASDAQ LISTING RULE 5635(B).

Overview

In November 2011, we issued and sold to certain affiliates of Pillar Invest Corporation, or Pillar, 1,124,260 shares of our Series D preferred stock and warrants to purchase up to 2,810,650 shares of our common stock, for an aggregate purchase price of approximately $9.5 million. In November 2012, we issued and sold to other affiliates of Pillar 424,242 shares of our Series E preferred stock and warrants to purchase up to 8,484,840 shares of our common stock, for an aggregate purchase price of approximately $7.0 million.

Nasdaq Listing Rule 5635(b), or Rule 5635(b), requires companies to obtain stockholder approval of the issuance of securities that would result in a change in control. Without action, each of these transactions would have resulted in a change of control under Rule 5635(b). As a result, in order for these transactions to not constitute a change of control, we limited the ability of Pillar and its affiliates to beneficially own 20% or more of our common stock (including shares of common stock issuable upon conversion or exercise of the securities issued in the transactions) or the combined voting power of all of our securities then outstanding. Specifically, under the Certificates of Designations for the Series D preferred stock and Series E preferred stock, shares of Series D preferred stock and Series E preferred stock may not be converted into shares of our common stock to the extent that such conversion would result in Pillar and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the conversion of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding. In addition, the warrants issued in the transactions provide that the warrants cannot be exercised to the extent that such exercise would result in Pillar and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the exercise of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding.

At the time of the November 2012 preferred stock financing transaction, we agreed to seek stockholder approval at the 2013 annual meeting of the issuance and sale by us to certain affiliates of Pillar (including our prior issuances and sales of our securities to such affiliates in November 2011 and November 2012) of a number of shares of our common stock (including securities convertible into or exercisable for shares of our common stock) that is greater than 19.99% of the total number of issued and outstanding shares of common stock or outstanding voting power of our securities after such issuance and sale in accordance with Rule 5635(b). We have included this Proposal Seven, which we refer to as the Nasdaq Proposal, in this proxy statement pursuant to this agreement.

In the event that the Nasdaq Proposal is approved by our stockholders at the 2013 annual meeting, the beneficial ownership limitations that restrict Pillar and its affiliates from converting their respective shares of Series D preferred stock and Series E preferred stock into, and from exercising their warrants for, shares of our common stock will be increased from 19.99% to 35% and will have related consequences, all as more fully described below.

Our board of directors unanimously recommends that the stockholders vote for the approval of the Nasdaq Proposal.

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Summary of November 2011 and November 2012 Preferred Stock Financing Transactions

Terms of November 2011 Series D Preferred Stock Financing

In November 2011, we entered into the Series D Purchase Agreement for the issuance and sale of shares of our Series D preferred stock and warrants to purchase shares of our common stock, with Pillar Pharmaceuticals I, L.P., or Pillar I. The Series D Purchase Agreement was amended in November 2012 in connection with the Series E preferred stock financing. Pursuant to the Series D Purchase Agreement, we issued and sold to Pillar I, for an aggregate purchase price of approximately $9.5 million, 1,124,260 shares of our Series D preferred stock and warrants to purchase up to 2,810,650 shares of our common stock, or the Series D warrants.

The shares of Series D preferred stock were initially convertible, subject to limitations, into 5,621,300 shares of our common stock at an initial conversion price of $1.63. The initial exercise price of the warrants was $1.63 per share. The sale of shares of Series E preferred stock and related warrants to purchase shares of our common stock, or Series E warrants, in our November 2012 Series E preferred stock financing triggered an anti-dilution adjustment under the terms of the Series D preferred stock, resulting in the conversion price of the Series D preferred stock being reduced and fixed at the minimum $1.46 per share, the warrant exercise price being reduced to $1.46 per share, and the Series D preferred stock and warrants no longer being subject to any anti-dilution adjustments. Based on this conversion price adjustment, the shares of Series D preferred stock are convertible into 6,266,175 shares of common stock.

Under the terms of the Series D Purchase Agreement, Pillar I agreed to be subject to a standstill provision that continues for so long as Pillar I and its affiliates beneficially own more than 15% of the outstanding common stock of the Company. In addition, under the terms of the Series E Purchase Agreement, that we entered into with certain affiliates of Pillar in connection with our Series E preferred stock financing, the holders of our Series D preferred stock participation rights in future financings.

In connection with our November 2012 Series E preferred stock financing, the Series D Purchase Agreement was amended to provide:

- that, for so long as Pillar I and its affiliates beneficially own more than 19.99% or 25% (if our stockholders approve the Nasdaq Proposal) of the outstanding common stock, Pillar I and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion of securities convertible into or exercisable for shares of common stock held by Pillar I and its affiliates) with respect to any matter put to a vote of the holders of our common stock in the same manner and percentage as the holders of our common stock (other than Pillar I and its affiliates) vote on such matter; and

- for certain restrictions on the transfer of any securities issued to Pillar I (including securities convertible into or exercisable for common stock) pursuant to the Series D Purchase Agreement, including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer of more than 5% of the then outstanding combined voting power of our outstanding securities (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering that has been approved by our board of directors).

In connection with the Series D Purchase Agreement, we filed a registration statement that became effective on December 21, 2011, registering the resale of the shares of common stock issuable upon conversion of the Series D preferred stock and the shares of common stock issuable upon exercise of the Series D warrants. In February 2013, we filed a registration statement that became effective on February 8, 2013, covering the resale of the additional shares of common stock issuable upon conversion of the Series D preferred stock.

Series D Preferred Stock

The rights, preferences and privileges of our Series D preferred stock as currently in effect are set forth in the Series D Certificate of Designations, a copy of which is attached as Exhibit 3.1 to our Current Report on

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Form 8-K that we filed with the Securities and Exchange Commission on November 10, 2011, and are summarized below.

Dividends The holders of our Series D preferred stock are entitled to receive dividends payable quarterly in arrears at the rate of 7% per annum. Such dividends are payable in cash through December 31, 2014 and thereafter in cash or with shares of our common stock, as determined by our board of directors in its sole discretion, except that we may not pay any dividends to a holder of our Series D preferred stock in shares of common stock to the extent the issuance of such shares would result in such holder and its affiliates beneficially owning more than 19.99% of our outstanding common stock or the combined voting power of all of our securities outstanding immediately after giving effect to the issuance of such shares of common stock. In addition, under the terms of the Series D preferred stock, any dividends that we pay to holders of our Series E preferred stock will also be paid to holders of our Series D preferred stock on an as-converted basis. Accordingly, the 4.6% dividends that we pay to holders of our Series E preferred stock pursuant to the Series E Certificate of Designations are also paid to the holders of our Series D preferred stock on an as-converted basis, which results in holders of our Series D preferred stock being entitled to an additional 2.2% per annum cash dividend payable quarterly in arrears.

In connection with the Series E preferred stock financing, we agreed to submit a proposal at the 2013 annual meeting to approve an amendment to our Restated Certificate of Incorporation to amend the Series D Certificate of Designations to, among other things, modify the terms of the Series D preferred stock that require payment of dividends to holders of our Series D preferred stock upon payment of dividends to holders of our Series E preferred stock. If our stockholders approve this amendment at the 2013 annual meeting, the holders of our Series D preferred stock would cease to be entitled to corresponding dividends with respect to the Series E preferred stock. In addition, under agreements with the sole holder of our Series D preferred stock, we agreed to modify the dividend provisions of the Series D Certificate of Designations to (i) modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the holders of our Series D preferred stock, (ii) change the date after which we may elect to pay dividends to the holders of our Series D preferred stock in shares of our common stock in lieu of cash from December 31, 2014 to October 1, 2013, and (iii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that the payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series D Certificate of Designations. See Proposal Eight set forth elsewhere in this proxy statement, and specifically Proposals 8(b) and 8(c) described therein, for more information regarding the proposals to amend our Restated Certificate of Incorporation to amend the dividend provisions of the Series D Certificate of Designations.

Liquidation, Redemption by Holders and Other Events Under the original terms of the Series D preferred stock, in the event of a liquidation, dissolution or winding up of our company, or Liquidation, whether voluntary or involuntary, after payment or provision for payment of our debts and other liabilities, the holders of our Series D preferred stock then outstanding were entitled to be paid out of the assets of our company available for distribution to our stockholders an amount equal to the greater of (a) the original per share purchase price of the Series D preferred stock ($8.1375 per share) plus all accrued or declared but unpaid dividends thereon and (b) the amount that the holder of our Series D preferred stock would be entitled to receive with respect to each share of Series D preferred stock pursuant to such Liquidation if all of the outstanding shares of our Series D preferred stock had been converted into common stock as of the date immediately prior to the date fixed for determination of stockholders entitled to receive a distribution in such Liquidation. Such amount would be paid before any cash distribution may be made or any other assets distributed in respect of junior securities to the holders of any junior securities including, without limitation, our common stock and Series A convertible preferred stock, or Series A preferred stock. In addition, upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or

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similar transactions resulting in a person or group unaffiliated with any holder of our Series D preferred stock owning 66.67% or more of the outstanding voting securities of our company or successor entity, the holders of shares of our Series D preferred stock then outstanding were entitled to require us to purchase such shares of Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon.

In April 2013, the sole holder of our Series D preferred stock irrevocably waived their right to receive, in the event of a Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and agreed that upon a Liquidation the holders of our Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation. In addition, in April 2013, we and the sole holder of our Series D preferred stock also agreed to modify the terms of our Series D preferred stock to provide, in the event of a sale of the corporation (as defined in the Series D Certificate of Designations), for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock. See Proposal Eight set forth elsewhere in this proxy statement, and specifically Proposal 8(d) described therein, for more information regarding this proposal to approve amendments to our Restated Certificate of Incorporation amending the Series D Certificate of Designations.

Conversion Each share of Series D preferred stock is convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of our common stock as is determined by dividing the Series D preferred stock original issue price by the Series D preferred stock conversion price in effect at the time of conversion. The Series D preferred stock conversion price was initially equal to $1.63 and the Series D preferred stock issue price was initially equal to the $8.1375 original purchase price of the Series D preferred stock. Accordingly, each share of Series D preferred stock was initially convertible at the option of the holder into five fully paid and nonassessable shares of the common stock and all of the shares of Series D preferred stock were initially convertible into 5,621,300 shares of our common stock. As a result of our Series E preferred stock financing, the Series D preferred stock conversion price was reduced to $1.46 per share, and the 1,124,260 shares of our Series D preferred stock became convertible, subject to limitations described below, into 6,266,175 shares of our common stock. No holder may convert its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the conversion of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding. The Series D preferred stock conversion price, and the rate at which shares of Series D preferred stock may be converted into shares of our common stock, may be subject to adjustment for stock dividends, stock splits and other events, as provided in the Series D Certificate of Designations.

Redemption by Company After November 4, 2013, we may redeem, for a cash payment equal to the $8.1375 original Series D preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon, all or a portion of our outstanding Series D preferred stock if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 200% of the $1.46 Series D preferred stock conversion price.

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Series D Warrants

The Series D warrants issued in connection with our Series D preferred stock financing may be exercised at Pillar I s option, subject to limitations described below, at any time on or before November 4, 2016. The initial exercise price of the Series D warrants was $1.63 per share. In connection with our November 2012 Series E preferred stock financing, the exercise price of the Series D warrants was reduced to $1.46 per share. The Series D warrants provide that we may not effect any exercise of the Series D warrants, and the Series D warrants may not be exercised with respect to any portion of the Series D warrants, to the extent that such exercise would result in the holder thereof and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the exercise of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding. After November 4, 2013, we may redeem the Series D warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to Pillar I if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $6.51 per share (subject to adjustment); provided, that we may not redeem any Series D warrants from a holder that cannot exercise such Series D warrants as a result of the beneficial ownership limitations described above.

Terms of November 2012 Series E Preferred Stock Financing

In November 2012, we entered into the Series E Purchase Agreement for the issuance and sale of shares of our Series E preferred stock and warrants to purchase shares of our common stock, with Pillar II, and a second purchaser, or the Series E purchasers. Pursuant to the Series E Purchase Agreement, we issued and sold to the Series E purchasers, for an aggregate purchase price of approximately $7.0 million, 424,242 shares of Series E preferred stock and warrants to purchase up to 8,484,840 shares of our common stock. The shares of Series E preferred stock are convertible, subject to limitations, into an aggregate of 8,484,840 shares of common stock at a conversion price of $0.70 per share. The exercise price of the warrants is $0.70 per share.

Under the terms of the Series E Purchase Agreement, we granted the holders of our Series E preferred stock participation rights in future financings, and each Series E purchaser agreed:

- for so long as the Series E purchaser and its affiliates beneficially own more than 19.99% or 25% (if the stockholders approve the Nasdaq Proposal) of the outstanding common stock, that the Series E purchaser and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion or exercise of securities that are convertible into or exercisable for shares of common stock held by such Series E purchaser and its affiliates) with respect to any matter put to a vote of the holders of our common stock in the same manner and percentage as the holders of our common stock (other than the Series E purchaser) vote on such matter;

- to certain restrictions on the transfer of any securities issued to such Series E purchaser (including securities convertible into or exercisable for common stock) pursuant to the Series E Purchase Agreement including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer of more than 5% of the then outstanding combined voting power of our outstanding securities (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering that has been approved by our board of directors); and

- to be subject to a standstill provision that continues for so long as such Series E purchaser and its affiliates beneficially own more than 15% of the outstanding common stock of the Company.

In connection with the Series E Purchase Agreement, we filed a registration statement that became effective on January 17, 2013, registering the resale of the shares of common stock issuable upon conversion of the Series E preferred stock and the shares of common stock issuable upon exercise of the Series E warrants.

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Series E Preferred Stock

The rights, preferences and privileges of our Series E preferred stock as currently in effect are set forth in Series E Certificate of Designations, a copy of which is attached as Exhibit 3.1 to our Current Report on Form 8-K that we filed with the Securities and Exchange Commission on November 14, 2012, and are summarized below.

Dividends Under the Series E Certificate of Designations, the holders of our Series E preferred stock are entitled to receive cash dividends payable quarterly in arrears at the rate of 4.6%. In connection with the Series E preferred stock financing, we agreed to submit to our stockholders the proposal outlined in Proposal 8(b) set forth elsewhere in this proxy statement to approve an amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to, among other things, modify the terms of the Series D preferred stock that currently require payment of dividends to the holders of our Series D preferred stock upon payment of dividends to the holders of our Series E preferred stock. If our stockholders approve Proposal 8(b), we will cease to owe dividends to the holders of our Series D preferred stock on the payment of dividends to the holders of our Series E preferred stock, and the dividend rate with respect to the Series E preferred stock will increase from the initial dividend rate to the rate of 8% per annum. The initial dividend rate is also subject to increase to 8% per annum in the event that, as of any Series E preferred stock dividend payment date, there are no shares of Series D preferred stock outstanding. In the event that Proposal 8(b) is not approved, then the holders of our Series E preferred stock will no longer be entitled to any dividends on the Series E preferred stock. Under agreements with the holders of our Series E preferred stock, we agreed to modify the dividend provisions of the Series E Certificate of Designations to (i) permit us to elect to pay dividends to the holders of our Series E preferred stock in shares of our common stock in lieu of cash commencing on October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that the payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series E Certificate of Designations. See Proposal Nine set forth elsewhere in this proxy statement, and specifically Proposal 9(a) described therein, for more information regarding the proposals to amend our Restated Certificate of Incorporation to amend the dividend provisions of the Series E Certificate of Designations.

Liquidation and Other Events Under the original terms of the Series E preferred stock, in the event of a Liquidation (other than a sale of the corporation, as defined in the Series E Certificate of Designations), whether voluntary or involuntary, after payment or provision for payment of our debts and other liabilities, the holders of our Series E preferred stock then outstanding were entitled to be paid out of the assets of our company available for distribution to our stockholders an amount equal to the greater of (a) the original per share purchase price of the Series E preferred stock ($14.00 per share) plus all accrued or declared but unpaid dividends thereon and (b) the amount that the holder of our Series E preferred stock would be entitled to receive with respect to each share of Series E preferred stock pursuant to such Liquidation if all of the outstanding shares of our Series E preferred stock had been converted into common stock as of the date immediately prior to the date fixed for determination of stockholders entitled to receive a distribution in such Liquidation. Such amount would be paid before any cash distribution may be made or any other assets distributed in respect of the holders of our common stock, Series A preferred stock, Series D preferred stock or any other class of our capital stock ranking junior to our Series E preferred stock as to Liquidation. In the event of a sale of the corporation, after payment to the holders of our Series A preferred stock, Series D preferred stock and any other class of our capital stock ranking senior to our Series E preferred stock, our remaining assets available for distribution to our stockholders would be distributed among the holders of shares of our Series E preferred stock and common stock on a pro rata (and as converted to common stock) basis based on the number of shares held by each such holder.

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In April 2013, the holders of our Series E preferred stock irrevocably waived their right to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and agreed that upon a Liquidation the holders of our Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation. See Proposal Nine set forth elsewhere in this proxy statement, and specifically Proposal 9(b) described therein, for more information regarding this proposal to approve amendments to our Restated Certificate of Incorporation amending the Series E Certificate of Designations.

Voting Except with respect to the protective provisions described below, the Series E preferred stock is non-voting.

Protective Provisions For so long as at least 84,849 shares of our Series E preferred stock remain outstanding, we cannot, directly or indirectly, (a) amend our Restated Certificate of Incorporation or bylaws in a manner that adversely and uniquely affects the Series E preferred stock, (b) except as expressly permitted by the Series E Certificate of Designations, purchase or redeem or pay or declare any dividend or make any distribution on, any shares of our capital stock, or (c) recapitalize or reclassify any of our common stock, without in each case the written consent or affirmative vote of the holders of at least 51% of the then outstanding shares of Series E preferred stock.

Conversion Each share of Series E preferred stock is convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of our common stock as is determined by dividing the Series E preferred stock original issue price by the Series E preferred stock conversion price in effect at the time of conversion. The Series E preferred stock conversion price is equal to $0.70 and the Series E preferred stock issue price is initially equal to the $14.00 original purchase price of the Series E preferred stock. Accordingly, each share of Series E preferred stock is convertible at the option of the holder into 20 fully paid and nonassessable shares of our common stock. No holder may convert its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the conversion of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding. The Series E preferred stock conversion price, and the rate at which shares of Series E preferred stock may be converted into shares of our common stock, are subject to adjustment for stock dividends, stock splits and other similar events, as provided in the Series E Certificate of Designations.

Redemption by Company After the later of November 9, 2014 and the date that no shares of Series D preferred stock remain outstanding, we may redeem all or a portion of our outstanding Series E preferred stock for a cash payment equal to the $14.00 original Series E preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon following notice to the holders of our Series E preferred stock if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 400% of the $0.70 Series E preferred stock conversion price. We may not redeem any shares of Series E preferred stock from a holder that cannot convert such shares of Series E preferred stock into common stock as a result of the beneficial ownership limitations on conversion of the Series E preferred stock as described above. In such event, we may redeem such nonredeemable shares pursuant to alternative redemption provisions set forth in the Series E Certificate of Designations following notice to the holders of the nonredeemable shares, for a cash payment equal to the greater of the 20 consecutive trading day average closing price per share of our common stock ending on the trading day immediately prior to redemption date plus any dividends accrued or declared but unpaid thereon and the Series E conversion price plus any dividends accrued or declared but unpaid thereon.

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Series E Warrants

The Series E warrants are exercisable at an exercise price of $0.70 per share at any time on or prior to November 9, 2017. The Series E warrants provide that we may not effect any exercise of the Series E warrants, and the Series E warrants may not be exercised with respect to any portion of the Series E warrants, to the extent that such exercise would result in the holder of the warrant and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the exercise of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding. The Series E warrants also provide that at any time after November 9, 2014 we may redeem the Series E warrants for $0.01 per share of common stock issuable upon exercise of the Series E warrants following notice to the holder of the Series E warrants if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 per share (subject to adjustment); provided, that we may not redeem any Series E warrants from a holder that cannot exercise such Series E warrants as a result of the beneficial ownership limitations described above.

Changes in the Terms of the Preferred Stock and Warrants if the Nasdaq Proposal is Approved by Our Stockholders

Changes to Series D Preferred Stock

In the event that the Nasdaq Proposal and the amendments to our Restated Certificate of Incorporation to amend the Series D Certificate of Designations described in Proposal 8(a) set forth elsewhere in this proxy statement are approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series D preferred stock will change as follows:

Dividends The beneficial ownership limitation that prohibits a holder of our Series D preferred stock from receiving dividends payable in shares of common stock to the extent the issuance of such shares would result in the holder of our Series D preferred stock and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the conversion of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding will be increased from 19.99% to 35%.

Conversion The beneficial ownership limitation that restricts a holder of our Series D preferred stock from converting its shares of Series D preferred stock to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the conversion of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding, will be increased from 19.99% to 35%.

Changes to Series D Warrants

In the event that the Nasdaq Proposal is approved by our stockholders at the 2013 annual meeting, the beneficial ownership limitation that restricts Pillar and its affiliates from exercising their Series D warrants for shares of our common stock to the extent such exercise would result in Pillar and its affiliates beneficially owning more than 19.99% of our outstanding common stock or the combined voting power of all of our securities then outstanding (including shares of our common stock issuable upon conversion of the Series D preferred stock and Series D warrants held by Pillar and its affiliates) will be increased from 19.99% to 35%.

Changes to Series E Preferred Stock

In the event that the Nasdaq Proposal is approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series E preferred stock will change as follows:

Voting The Series E preferred stock will become voting stock with all the voting rights of the common stock and the Series D preferred stock. Each holder of outstanding shares of our Series E preferred stock will be entitled to cast a number of votes equal to the lesser of (a) the number of whole

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shares of common stock into which the shares of Series E preferred stock held by such holder are convertible and (b) the product of the Voting Adjustment Percentage, as defined in the Series E Certificate of Designations, multiplied by the number of whole shares of common stock into which the shares of Series E preferred stock held by such holder are convertible. The intent of the Voting Adjustment Percentage is to provide that the maximum aggregate voting power that the holders of our Series E preferred stock and their affiliates may hold does not exceed 35% of our total outstanding voting power at any time. The Voting Adjustment Percentage does not modify the provisions set forth in the Series E Purchase Agreement that require the Series E purchasers and their affiliates to vote any shares held by them in excess of the applicable percentage of our outstanding common stock (including shares of our common stock issuable upon conversion or exercise of securities that are convertible into or exercisable for shares of common stock held by the Series E purchasers and their affiliates) in the same manner and percentage as the holders of our common stock (other than the Series E purchasers and their affiliates) vote on such matter.

Conversion The beneficial ownership limitation that restricts a holder of our Series E preferred stock from converting its shares of Series E preferred stock to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of our outstanding common stock (including shares of our common stock issuable upon conversion of the Series E preferred stock) or the combined voting power of all of our securities then outstanding will be increased from 19.99% to 35%.

Changes to Series E Warrants

In the event that the Nasdaq Proposal is approved by our stockholders at the 2013 annual meeting, the beneficial ownership limitation that restricts Pillar and its affiliates from exercising their Series E warrants for shares of our common stock to the extent such exercise would result in Pillar and its affiliates beneficially owning more than 19.99% of our outstanding common stock (including shares of our common stock issuable upon conversion of the Series E preferred stock and Series E warrants held by Pillar and its affiliates) or the combined voting power of all of our securities then outstanding will be increased from 19.99% to 35%.

Changes to Pillar Voting Rights

In the event that the Nasdaq Proposal is approved by our stockholders at the 2013 annual meeting, under the terms of the Series E Purchase Agreement and the Series D Purchase Agreement, as amended in connection with our Series E preferred stock financing, the requirement that Pillar and its affiliates vote any shares held by them in excess of the number of shares equal to 19.99% of our outstanding common stock (including the shares of our common stock issuable upon conversion or exercise of securities that are convertible into or exercisable for shares of our common stock held by Pillar and its affiliates) with respect to any matter put to a vote of the holders of our common stock in the same manner and percentage as the holders of our common stock (other than Pillar and its affiliates) vote on such matter will be modified such that the 19.99% will be increased to 25%.

Effect on Holders of Common Stock if the Nasdaq Proposal is Approved by our Stockholders

The approval of the Nasdaq Proposal by our stockholders at the 2013 annual meeting (and with respect to the rights, preferences and privileges of our Series D preferred stock, the approval of Proposal 8(a) by our stockholders at the 2013 annual meeting) will result in the increase in the beneficial ownership limitations that restrict Pillar and its affiliates from converting their respective shares of Series D preferred stock and Series E preferred stock into, and from exercising their warrants for, shares of our common stock to the extent such conversion or exercise would result in Pillar and its affiliates beneficially owning more than 19.99% of our outstanding common stock (assuming the conversion and exercise of all such securities into shares of our common stock) or the combined voting power of all of our securities then outstanding from 19.99% to 35%. The increases and application of these beneficial ownership limitations will result in Pillar and its affiliates beneficially owning 35% of our outstanding common stock. In addition, the approval of the Nasdaq Proposal by our stockholders at the 2013 annual meeting will likely have the effect of increasing the voting power of Pillar and its affiliates as a result of the conversion of the Series E preferred stock from non-voting stock to voting

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stock, in accordance with the Series E Certificate of Designations, and of the increase in the voting rights threshold imposed on the securities held by Pillar and its affiliates from 19.99% to 25% of our outstanding common stock.

Pillar and its affiliates are our largest stockholder group. In addition, two members of our board of directors are affiliates of Pillar. In connection with their ownership of our Series D preferred Stock, Series D warrants, Series E preferred stock and Series E warrants, Pillar and its affiliates have various rights, preferences and privileges that are not held by the holders of our common stock and that in certain instances are preferential to the rights of the holders of our common stock. As a result, the interests of Pillar and its affiliates may differ from the interests of the holders of our common stock in material respects. Although there would continue to be contractual and other limitations on the beneficial ownership and voting rights of Pillar and its affiliates following the approval of the Nasdaq Proposal (and with respect to the rights, preferences and privileges of our Series D preferred stock, the approval of Proposal 8(a) at the 2013 annual meeting) by our stockholders at the 2013 annual meeting, Pillar and its affiliates may still be able to exert substantial influence over our business.

Consequences if Stockholder Approval of the Nasdaq Proposal is Not Obtained

If the Nasdaq Proposal is not approved by our stockholders at the 2013 annual meeting, then (regardless of whether Proposal 8(a) is approved by our stockholders at the 2013 annual meeting), the existing 19.99% beneficial ownership limitations imposed on the Series D preferred stock, Series D warrants, Series E preferred stock and Series E warrants held by Pillar and its affiliates, and the 19.99% voting rights threshold imposed on the securities held by Pillar and its affiliates, will remain in effect. In addition, the Series E preferred stock will remain non-voting stock in accordance with the Series E Certificate of Designations.

Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the approval of the Nasdaq Proposal.

The affirmative vote of (i) the stockholders holding a majority of the outstanding shares of our common stock and Series D preferred stock present in person or represented by proxy and voting on the matter, voting as a single class, on an as-converted basis and (ii) the stockholders (other than us, Pillar and their respective affiliates) holding a majority of the issued and outstanding shares of our common stock and Series D preferred stock entitled to vote and held by such stockholders, voting as a single class, on an as-converted basis, is required for the approval of this Proposal Seven.

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PROPOSAL EIGHT

APPROVAL OF AMENDMENTS TO OUR RESTATED CERTIFICATE OF INCORPORATION AMENDING THE CERTIFICATE OF DESIGNATIONS, PREFERENCES AND RIGHTS OF SERIES D CONVERTIBLE PREFERRED STOCK

Overview

In November 2012 and April 2013 we entered into agreements with certain affiliates of Pillar Invest Corporation, or Pillar. These agreements are described in greater detail below, in Transactions with Related Persons set forth elsewhere in this proxy statement and in Proposal Seven set forth elsewhere in this proxy statement. Under these agreements, we agreed to seek stockholder approval at the 2013 annual meeting of amendments to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to:

provide that, if the Nasdaq Proposal were approved by our stockholders, the beneficial ownership limitation applicable to our Series D preferred stock would be increased from 19.99% to 35% consistent with the beneficial ownership limitations applicable to our Series E preferred stock (see Proposal 8(a) below);

modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the holders of our Series D preferred stock (see Proposal 8(b) below);

modify the dividend provisions of our Series D preferred stock to (i) change the date after which we may elect to pay dividends to the holders of our Series D preferred stock in shares of our common stock in lieu of cash from December 31, 2014 to October 1, 2013, and (ii) allow for the payment of dividends in shares of a to-be-created new series of our preferred stock in the event that the payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series D Certificate of Designations (see Proposal 8(c) below); and

modify the provisions of our Series D preferred stock to:
(i) eliminate the provision of the Series D Certificate of Designations that had provided the holders of our Series D preferred stock with the right to require us to redeem the Series D preferred stock upon the occurrence of specified fundamental changes and to provide, in the event of a sale of the corporation (as defined the Series D Certificate of Designations), for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock; and

(ii) eliminate the right of the holders of our Series D preferred stock to receive, in the event of a liquidation, dissolution or winding up of our company, or Liquidation, whether voluntary or involuntary, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation, the holders of our Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation and not any amount greater than that amount in preference to our common stock (see Proposal 8(d) below).

We have included this Proposal Eight in this proxy statement pursuant to our agreements with Pillar and its affiliates. Under these agreements, Pillar and its affiliates have agreed to vote all shares of our voting stock held by Pillar and its affiliates in favor of the amendments described in this Proposal Eight.

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Our board of directors unanimously recommends that the stockholders vote for the approval of each of the proposed amendments to our Restated Certificate of Incorporation amending the Series D Certificate of Designations as described in this Proposal Eight.

Proposals

Proposals 8(a), 8(b), 8(c) and 8(d) all relate to amendments to our Restated Certificate of Incorporation to amend the Series D Certificate of Designations for which we agreed, under our agreements with Pillar and its affiliates, to seek approval from our stockholders at the 2013 annual meeting, but each proposal concerns different amendments to our Restated Certificate of Incorporation. We are submitting these amendments to our stockholders as separate items so that our stockholders are able to express their views on each set of proposed amendments separately. No individual proposal included in this Proposal Eight is conditioned on the approval of any other individual proposal included in this Proposal Eight.

If Proposals 8(a), 8(b), 8(c) and 8(d) each receive the requisite stockholder vote, then our Restated Certificate of Incorporation will be amended to reflect all of the amendments to the Series D Certificate of Designations set forth in Part (A) of Appendix E.

If Proposal 8(a) receives the requisite stockholder vote, but Proposals 8(b), 8(c) and 8(d) do not, then the amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations will reflect the amendments to the Series D Certificate of Designations set forth in Part (B) of Appendix E.

If Proposal 8(b) receives the requisite stockholder vote, but Proposals 8(a), 8(c) and 8(d) do not, then the amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations will reflect the amendments to the Series D Certificate of Designations set forth in Part (C) of Appendix E.

If Proposal 8(c) receives the requisite stockholder vote, but Proposals 8(a), 8(b) and 8(d) do not, then the amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations will reflect the amendments to the Series D Certificate of Designations set forth in Part (D) of Appendix E.

If Proposal 8(d) receives the requisite stockholder vote, but Proposals 8(a), 8(b) and 8(c) do not, then the amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations will reflect the amendments to the Series D Certificate of Designations set forth in Part (E) of Appendix E.

If none of Proposals 8(a), 8(b), 8(c) and 8(d) receive the requisite stockholder vote, then no changes will be made to our Restated Certificate of Incorporation under this Proposal Eight.

To the extent any or all of Proposals 8(a), 8(b), 8(c) and 8(d) receive the requisite stockholder vote, the appropriate amendments to the Series D Certificate of Designations, as described above, will be set forth in a Certificate of Amendment to Series D Certificate of Designations which will be filed with the Secretary of State of the State of Delaware promptly following the 2013 annual meeting. The forms of resolutions to be included in the Certificate of Amendment (subject, in each case, to the approval of our stockholders) for each of the proposed amendments to the Series D Certificate of Designations described in Proposals 8(a), 8(b), 8(c) and 8(d) will be as set forth in Appendix E (subject to any changes required by applicable law).

The following description of the proposed amendments to our Restated Certificate of Incorporation amending the Series D Certificate of Designations is a summary and is qualified by the full text of the proposed amendments, which are attached to this proxy statement as Appendix E. Our board of directors reserves the right, at any time prior to the effectiveness of the filing of the Certificate of Amendment to the Series D Certificate of Designations, to abandon one or more of the proposed amendments.

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Proposal 8(a): Proposed amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to provide that, if the Nasdaq Proposal were approved by our stockholders, the beneficial ownership limitation applicable to our Series D preferred stock would be increased from 19.99% to 35%, consistent with the beneficial ownership limitations applicable to our Series E preferred stock

Restated Certificate of Incorporation sections affected: Sections 1.1 and 4.1.1 of the Series D Certificate of Designations

In November 2012, we agreed, among other things, to seek stockholder approval at the 2013 annual meeting of the issuance and sale by us to certain affiliates of Pillar (including our prior issuances and sales of our securities to such affiliates in November 2011 and November 2012) of a number of shares of our common stock (including securities convertible into or exercisable for shares of our common stock) that is greater than 19.99% of the total number of issued and outstanding shares of common stock or outstanding voting power of our securities after such issuance and sale in accordance with Rule 5635(b). Additional details regarding this proposal, which we refer to as the Nasdaq Proposal, and the terms of our Series D preferred stock and Series E preferred stock financings are set forth in Proposal Seven to this proxy statement.

In connection with the Series E preferred stock financing, we also agreed to seek stockholder approval at the 2013 annual meeting of amendments to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to, among other things, provide that, if the Nasdaq Proposal were approved by our stockholders, the beneficial ownership limitation applicable to our Series D preferred stock would be increased from 19.99% to 35% consistent with the beneficial ownership limitations applicable to our Series E preferred stock. We have included this Proposal 8(a) in this proxy statement pursuant to the Series E Purchase Agreement.

The rights, preferences and privileges of our Series D preferred stock are set forth in the Series D Certificate of Designations, a copy of which is attached as Exhibit 3.1 to our Current Report on From 8-K that we filed with the Securities and Exchange Commission on November 10, 2011, and are summarized in Proposal Seven set forth elsewhere in this proxy statement. In the event that Proposal 8(a) is approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series D preferred stock will change as follows:

Dividends The beneficial ownership limitation that prohibits us from paying a holder of Series D preferred stock dividends payable in shares of common stock to the extent the issuance of such shares would result in the holder of our Series D preferred stock and its affiliates beneficially owning more than 19.99% of our outstanding common stock (including shares of our common stock issuable upon conversion of our Series D preferred stock) will be modified to allow for the increase in such beneficial ownership limitation from 19.99% to 35% in the event the Nasdaq Proposal is approved by our stockholders. The modifications to the dividend provisions of the Series D Certificate of Designations described in this Proposal 8(a) are in addition to, and not in lieu of the modifications to the dividend provisions of the Series D Certificate of Designations described in Proposals 8(b) and 8(c) to the extent such modifications are approved by our stockholders.

Conversion Each share of Series D preferred stock will continue to be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of any additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of common stock as is determined by dividing the Series D preferred stock original issue price by the Series D preferred stock conversion price then in effect at the time of conversion. However, the beneficial ownership limitation that prohibits a holder of Series D preferred stock from converting its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of our outstanding common stock (including shares of our common stock issuable upon conversion of the Series D preferred stock) will be modified to allow for the increase in such beneficial ownership limitation from 19.99% to 35% in the event the Nasdaq Proposal is approved by our stockholders.

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The forms of resolutions to be included in the Certificate of Amendment to Series D Certificate of Designations to effect the changes described in this Proposal 8(a) are set forth in Part (B) of Appendix E attached to this proxy statement.

Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the approval of an amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to provide that, if the Nasdaq Proposal were approved by our stockholders, the beneficial ownership limitation applicable to our Series D preferred stock would be increased from 19.99% to 35%, consistent with the beneficial ownership limitations applicable to our Series E preferred stock.

The affirmative vote of (i) stockholders holding a majority of our issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, and (ii) stockholders holding a majority of our issued and outstanding Series D preferred stock entitled to vote, voting separately as a series, is required for the approval of this Proposal 8(a).

Proposal 8(b): Proposed amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to eliminate the requirement that we pay dividends to the holders of our Series D preferred stock upon payment of dividends to the holders of our Series E preferred stock

Restated Certificate of Incorporation sections affected: Section 1.3 of the Series D Certificate of Designations

Also under the Series E Purchase Agreement, we agreed to seek stockholder approval at the 2013 annual meeting of an amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to eliminate the requirement that we pay dividends to the holders of our Series D preferred stock upon payment of dividends to the holders of our Series E preferred stock. We have included this Proposal 8(b) in this proxy statement pursuant to the Series E Purchase Agreement.

In the event that Proposal 8(b) is approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series D preferred stock will change as follows:

Dividends The holders of our Series D preferred stock shall continue to be entitled to receive dividends payable quarterly in arrears at the rate of 7% per annum. However, the dividend provisions that currently require that we pay dividends to the holders of our Series D preferred stock upon payment of dividends to the holders of our Series E preferred stock will be eliminated. The modifications to the dividend provisions of the Series D Certificate of Designations described in this Proposal 8(b) are in addition to, and not in lieu of the modifications to the dividend provisions of the Series D Certificate of Designations described in Proposals 8(a) and 8(c) to the extent such modifications are approved by our stockholders at the 2013 annual meeting.

Under the existing terms of the Series D preferred stock, any dividends that we pay to holders of our Series E preferred stock must also be paid to holders of our Series D preferred stock on an as-converted basis. Accordingly, the 4.6% dividends that we currently pay to holders of our Series E preferred stock pursuant to the Series E Certificate of Designations are also paid to the holders of our Series D preferred stock on an as-converted basis, which results in holders of our Series D preferred stock being entitled to an additional 2.2% per annum cash dividend payable quarterly in arrears. If this Proposal 8(b) is approved by our stockholders, the holders of our Series D preferred stock would cease to be entitled to corresponding dividends with respect to the Series E preferred stock but would continue to be entitled to receive dividends payable quarterly in arrears at the rate of 7% per annum. In the event that Proposal 8(b) is not approved by our stockholders, the holders of our Series E preferred stock will no longer be entitled to receive dividends. The form of resolution to be included in the Certificate of Amendment to Series D Certificate of Designations to effect the changes described in this Proposal 8(b) is set forth in Part (C) of Appendix E attached to this proxy statement.

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Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the approval of an amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the holders of our Series D preferred stock.

The affirmative vote of (i) stockholders holding a majority of our issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, and (ii) stockholders holding a majority of our issued and outstanding Series D preferred stock entitled to vote, voting separately as a series, is required for the approval of this Proposal 8(b).

Proposal 8(c): Proposed amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to modify the dividend provisions of our Series D preferred stock to (i) change the date after which we may elect to pay dividends to the holders of our Series D preferred stock in shares of our common stock in lieu of cash from December 31, 2014 to October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series D Certificate of Designations

Restated Certificate of Incorporation sections affected: Section 1.1 of the Series D Certificate of Designations

On April 22, 2013, we entered into an agreement with certain affiliates of Pillar, which we refer to as the April 22, 2013 Pillar Agreement. Under the April 22, 2013 Pillar Agreement, we and each of the Pillar affiliates agreed to modify the dividend provisions of the Series D Certificate of Designations to (i) change the date after which we may elect to pay dividends to the holders of our Series D preferred stock in shares of our common stock from December 31, 2014 to October 1, 2013 and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series D Certificate of Designations.

Under the April 22, 2013 Pillar Agreement, we agreed to seek stockholder approval at the 2013 annual meeting of an amendment to our Restated Certificate of Incorporation to affect these changes to the dividend provisions of our Series D preferred stock. We have included this Proposal 8(c) in this proxy statement pursuant to the April 22, 2013 Pillar Agreement.

In the event that Proposal 8(c) is approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series D preferred stock will change as follows:

Dividends Under the Series D Certificate of Designations we have the right to pay dividends on our Series D preferred stock in shares of our common stock. However, we do not have the right to do so until December 31, 2014, and we may not pay any dividends to a holder of our Series D preferred stock in shares of common stock to the extent the issuance of such shares would result in such holder and its affiliates beneficially owning more than 19.99% of our common stock (assuming the conversion of all such shares into shares of our common stock) or the combined voting power of all of our securities then outstanding. If Proposal 8(c) is approved by our stockholders, the dividend provisions of the Series D Certificate of Designations will be modified to change the date after which we may elect to pay dividends in shares of our common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitation set forth in the Series D Certificate of Designations. The modifications to the dividend provisions of the Series D Certificate of Designations

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described in this Proposal 8(c) are in addition to, and not in lieu of the modifications to the dividend provisions of the Series D Certificate of Designations described in Proposals 8(a) and 8(b) to the extent such modifications are approved by our stockholders at the 2013 annual meeting.

The form of resolution to be included in the Certificate of Amendment to Series D Certificate of Designations to effect the changes described in this Proposal 8(c) is set forth in Part (D) of Appendix F attached to this proxy statement.

Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the approval of an amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to modify the dividend provisions of our Series D preferred stock to (i) change the date after which we may elect to pay dividends to the holders of our Series D preferred stock in shares of our common stock in lieu of cash from December 31, 2014 to October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series D Certificate of Designations.

The affirmative vote of (i) stockholders holding a majority of our issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, and (ii) stockholders holding a majority of our issued and outstanding Series D preferred stock entitled to vote, voting separately as a series, is required for the approval of this Proposal 8(c).

Proposal 8(d): Proposed amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to modify the provisions of our Series D preferred stock to (i) eliminate the provision of the Series D Certificate of Designations that had provided the holders of our Series D preferred stock with the right to require us to redeem the Series D preferred stock upon the occurrence of specified fundamental changes and provide, in the event of a sale of the corporation (as defined the Series D Certificate of Designations), for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock and (ii) modify the Series D Certificate of Designations to eliminate the right of the holders of our Series D preferred stock to receive, in the event of a Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of our Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

Restated Certificate of Incorporation sections affected: Sections 2.1, 4.1.2 and 6 of the Series D Certificate of Designations

In connection with the April 22, 2013 Pillar Agreement, the Pillar affiliate that is the sole holder of our Series D preferred stock, irrevocably waived and agreed to not exercise the rights, powers, preferences and other terms of the Series D preferred stock under Section 6 of the Series D Certificate of Designations, including without limitation the right to require us to purchase all or any portion of the shares of our Series D preferred

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stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of our Series D preferred stock owning 66.67% or more of the outstanding voting securities of our company or such successor entity. Also in connection with the April 22, 2013 Pillar Agreement, we and the Pillar affiliate that is the sole holder of our Series D preferred stock agreed to modify the provisions of our Series D preferred stock to provide, in the event of a sale of the corporation, for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock.

On April 30, 2013, we entered into a second agreement with certain affiliates of Pillar, which we refer to as the April 30, 2013 Pillar Agreement and together with the April 22, 2013 Pillar Agreement, the April Pillar Agreements. Under the April 30, 2013 Pillar Agreement, the Pillar affiliate that is the sole holder of our Series D preferred stock, irrevocably waived the right of the holders of our Series D preferred stock under Section 2.1 of the Series D Certificate of Designations to receive, in the event of a Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and agreed that, upon a Liquidation, the holders of our Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

Under the April Pillar Agreements, we agreed to seek stockholder approval at the 2013 annual meeting of amendments to our Restated Certificate of Incorporation to (i) modify the redemption rights of the holders of our Series D preferred stock and the liquidation provisions of our Series D preferred stock consistent with Pillar and its affiliates waiver and agreement not to exercise the rights, powers, preferences and other terms of the Series D preferred stock under such provisions and (ii) modify the provisions of our Series D preferred stock to provide, in the event of a sale of the corporation, for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock. We have included this Proposal 8(d) in this proxy statement pursuant to the April Pillar Agreements.

In the event that Proposal 8(d) is approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series D preferred stock will change as follows:

Liquidation and Other Events The liquidation provisions of the Series D Certificate of Designations will be modified to eliminate the right of the holders of our Series D preferred stock to receive, in the event of a Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of our Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation. In addition, the Series D Certificate of Designations will be modified to provide, in the event of a sale of the corporation, for the

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distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock.

The form of resolution to be included in the Certificate of Amendment to Series D Certificate of Designations to effect the changes described in this Proposal 8(d) is set forth in Part (E) of Appendix E attached to this proxy statement.

Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the approval of an amendment to our Restated Certificate of Incorporation amending the Series D Certificate of Designations to modify the provisions of our Series D preferred stock to (i) eliminate the provision of the Series D Certificate of Designations that had provided the holders of our Series D preferred stock with the right to require us to redeem the Series D preferred stock upon the occurrence of specified fundamental changes and provide, in the event of a sale of the corporation, for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A preferred stock and any other class of our capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks pari passu with the Series D preferred stock and (ii) provide that upon a Liquidation the holders of our Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation and not any amount greater than that amount in preference to our common stock.

The affirmative vote of (i) stockholders holding a majority of our issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, and (ii) stockholders holding a majority of our issued and outstanding Series D preferred stock entitled to vote, voting separately as a series, is required for the approval of this Proposal 8(d).

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PROPOSAL NINE

APPROVAL OF AMENDMENTS TO OUR RESTATED CERTIFICATE OF INCORPORATION AMENDING THE CERTIFICATE OF DESIGNATIONS, PREFERENCES AND RIGHTS OF SERIES E PREFERRED STOCK

Overview

In April 2013 we entered into agreements with certain affiliates of Pillar. These agreements are described in greater detail below and in Transactions with Related Persons set forth elsewhere in this proxy statement and Proposal Seven set forth elsewhere in this proxy statement. Under these agreements, we agreed to seek stockholder approval at the 2013 annual meeting of amendments to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations to:

- modify the dividend provisions of our Series E preferred stock to (i) permit us to elect to pay dividends to the holders of our Series E preferred stock in shares of our common stock in lieu of cash commencing on October 1, 2013, and (ii) allow for the payment of dividends in shares of a to-be-created new series of our preferred stock in the event that the payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series E Certificate of Designations (see Proposal 9(a) below); and

- modify the provisions of our Series E preferred stock to provide that upon a liquidation, dissolution or winding up of our company, which we refer to as a Liquidation, the holders of our Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation and not any amount greater than that amount in preference to our common stock (see Proposal 9(b) below).

We have included this Proposal Nine in this proxy statement pursuant to our agreements with Pillar and its affiliates. Under these agreements, Pillar and its affiliates have agreed to vote all shares of our voting stock held by Pillar and its affiliates in favor of the amendments described in this Proposal Nine.

Our board of directors unanimously recommends that the stockholders vote for the approval of each of the proposed amendments to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations described in this Proposal Nine.

Proposals

Proposals 9(a) and 9(b) each relate to amendments to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations for which we agreed, under our agreements with Pillar and its affiliates, to seek approval from our stockholders at the 2013 annual meeting, but each proposal concerns different amendments to our Restated Certificate of Incorporation. We are submitting these amendments to our stockholders as separate items so that our stockholders are able to express their views on each set of proposed amendments separately. Neither individual proposal included in this Proposal Nine is conditioned on the approval of the other individual proposal included in this Proposal Nine.

If Proposals 9(a) and 9(b) each receive the requisite stockholder vote, then our Restated Certificate of Incorporation will be amended to reflect all of the amendments to the Series E Certificate of Designations set forth in Part (A) of Appendix F.

If Proposal 9(a) receives the requisite stockholder vote, but Proposal 9(b) does not, then the amendment to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations will reflect the amendments to the Series E Certificate of Designations set forth in Part (B) of Appendix F.

If Proposal 9(b) receives the requisite stockholder vote, but Proposal 9(a) does not, then the amendment to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations will reflect the amendments to the Series E Certificate of

Designations set forth in Part (C) of Appendix F.

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If neither Proposal 9(a) or Proposal 9(b) receive the requisite stockholder vote, then no changes will be made to our Restated Certificate of Incorporation under this Proposal Nine.

To the extent either or both of Proposals 9(a) and 9 (b) receive the requisite stockholder vote, the approved amendments to the Series E Certificate of Designations will be set forth in a Certificate of Amendment to Series E Certificate of Designations which will be filed with the Secretary of State of the State of Delaware promptly following the 2013 annual meeting. The forms of resolutions to be included in the Certificate of Amendment to Series E Certificate of Designations (subject, in each case, to the approval of our stockholders) for each of the proposed amendments to the Series E Certificate of Designations described in Proposals 9(a) and 9(b) will be as set forth in Appendix F (subject to any changes required by applicable law).

The following description of the proposed amendments to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations is a summary and is qualified by the full text of the proposed amendments, which are attached to this proxy statement as Appendix F. Our board of directors reserves the right, at any time prior to the effectiveness of the filing of the Certificate of Amendment, to amend our Restated Certificate of Incorporation to amend the Series E Certificate of Designations, to abandon one or more of the proposed amendments.

Proposal 9(a): Proposed amendment to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations to modify the dividend provisions of our Series E preferred stock to (i) permit us to elect to pay dividends to the holders of our Series E preferred stock in shares of our common stock in lieu of cash commencing October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series E Certificate of Designations

Restated Certificate of Incorporation sections affected: Section 1.1 of the Series E Certificate of Designations

On April 22, 2013, we entered into an agreement with certain affiliates of Pillar. Under the April 22, 2013 Pillar Agreement, we and each of the Pillar affiliates agreed, among other things, to modify the dividend provisions of the Series E Certificate of Designations to (i) permit us to elect to pay dividends to the holders of our Series E preferred stock in shares of our common stock in lieu of cash beginning October 1, 2013 and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series E Certificate of Designations.

Under the April 22, 2013 Pillar Agreement, we agreed to seek stockholder approval at the 2013 annual meeting of an amendment to our Restated Certificate of Incorporation to affect these changes to the dividend provisions of our Series E preferred stock. We have included this Proposal 9(a) in this proxy statement pursuant to the April 22, 2013 Pillar Agreement.

In the event that Proposal 9(a) is approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series E preferred stock will change as follows:

Dividends Under the Series E Certificate of Designations we currently do not have the right to pay dividends on our Series E preferred stock in shares of common stock. If Proposal 9(a) is approved by our stockholders, the dividend provisions of the Series E Certificate of Designations will be modified to permit us to elect to pay dividends to the holders of our Series E preferred stock in shares of our common stock in lieu of cash beginning October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitation set forth in the Series E Certificate of Designations.

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The forms of resolutions to be included in the Certificate of Amendment to Series E Certificate of Designations to effect the changes described in this Proposal 9(a) are set forth in Part (B) of Appendix F attached to this proxy statement.

Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the approval of an amendment to our Restated Certificate of Incorporation to amend the Series E Certificate of Designations to modify the dividend provisions of our Series E preferred stock to (i) permit us to elect to pay dividends to the holders of our Series E preferred stock in shares of our common stock in lieu of cash commencing October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of our preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership limitations set forth in the Series E Certificate of Designations.

The affirmative vote of (i) stockholders holding a majority of our issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, and (ii) stockholders holding a majority of our issued and outstanding Series E preferred stock entitled to vote, voting separately as a series, is required for the approval of this Proposal 9(a).

Proposal 9(b): Proposed amendment to our Restated Certificate of Incorporation to modify the Series E Certificate of Designations to eliminate the right of the holders of our Series E preferred stock to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of our Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation

Restated Certificate of Incorporation sections affected: Sections 2.1.1 and 2.3.1 of the Series E Certificate of Designations

On April 30, 2013, we entered into a second agreement with certain affiliates of Pillar. Under the April 30, 2013 Pillar Agreement, the Pillar affiliates holding 100% of our outstanding Series E preferred stock irrevocably waived the right of the holders of our Series E preferred stock under Section 2.1 of the Series E Certificate of Designations to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and agreed that, upon a Liquidation, the holders of our Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

Under the April 30, 2013 Pillar Agreement, we agreed to seek stockholder approval at the 2013 annual meeting of amendments to our Restated Certificate of Incorporation modify the liquidation provisions of our Series E preferred stock consistent with Pillar and its affiliates waiver and agreement not to exercise the rights, powers, preferences and other terms of the Series E preferred stock under such provisions. We have included this Proposal 9(b) in this proxy statement pursuant to the April 30, 2013 Pillar Agreement.

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In the event that Proposal 9(b) is approved by our stockholders at the 2013 annual meeting, the rights, preferences and privileges of our Series E preferred stock will change as follows:

Liquidation The liquidation provisions of the Series E Certificate of Designations will be modified to eliminate the right of the holders of our Series E preferred stock to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of our Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

The forms of resolutions to be included in the Certificate of Amendment to Series E Certificate of Designations to effect the changes described in this Proposal 9(b) is set forth in Part (C) of Appendix F attached to this proxy statement.

Recommendation of the Board of Directors and Required Vote

Our board of directors unanimously recommends that the stockholders vote FOR the approval of an amendment to our Restated Certificate of Incorporation to modify the Series E Certificate of Designations to eliminate the right of the holders of our Series E preferred stock to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of our Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

The affirmative vote of (i) stockholders holding a majority of our issued and outstanding common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as-converted basis, and (ii) stockholders holding a majority of our issued and outstanding Series E preferred stock entitled to vote, voting separately as a series, required for the approval of this Proposal 9(b).

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TRANSACTIONS WITH RELATED PERSONS

Since January 1, 2012, except as discussed below regarding transactions with Pillar Pharmaceuticals I, L.P., or Pillar I, Pillar Pharmaceuticals II, L.P., or Pillar II, and Pillar Pharmaceuticals III, L.P., or Pillar III, which are currently greater than 5% stockholders, and Mr. El Zein, and Mr. Umari, whom are currently members of our board of directors and affiliates of Pillar I, Pillar II and Pillar III, we have not entered into or engaged in any related party transactions, as defined by the SEC, with our directors, officers and stockholders who beneficially owned more than 5% of our outstanding common stock, as well as affiliates or immediate family members of those directors, officers and stockholders. We believe that the terms of our transactions described below were no less favorable than those that we could have obtained from unaffiliated third parties.

Series E Preferred Stock and Warrant Financing

In November 2012, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Series E Purchase Agreement, with Pillar II and a second purchaser, which we collectively refer to as the Series E purchasers. Pillar II is an investment partnership managed by two of our directors and one of our significant stockholders. Mr. El Zein, a member of our board of directors, is a director and controlling stockholder of Pillar Invest, which is the general partner of Pillar II, and is a limited partner of Pillar II. Pillar Invest also entered into an Advisory Agreement with the second purchaser of our Series E convertible preferred stock, or Series E preferred stock, and related warrants to purchase shares of our common stock, or Series E warrants, pursuant to which Pillar Invest has investment discretion over the shares purchased by such second purchaser. Mr. El Zein has voting and investment control over the securities beneficially owned by Pillar II and Besancon. In addition, Abdul-Wahab Umari, also a member of our board of directors, is a managing partner of Pillar Invest.

Under the Series E Purchase Agreement, we issued and sold to the Series E purchasers, for an aggregate purchase price of approximately $7.0 million, 424,242 shares of Series E preferred stock and Series E warrants to purchase up to 8,484,840 shares of common stock. The shares of Series E preferred stock are convertible, subject to limitations, into an aggregate of 8,484,840 shares of common stock at a conversion price of $0.70 per share. No Series E preferred stockholder may convert its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of our common stock outstanding. The exercise price of the warrants is $0.70 per share. The warrants to purchase common stock are exercisable immediately, and will expire if not exercised on or prior to November 9, 2017.

We agreed to pay to the Series E preferred stockholders quarterly dividends payable in cash in arrears at the rate of 4.6% per annum with the first dividend payment being due on March 31, 2013. Under the terms of the Series D preferred stock, any dividends that we pay to Series E preferred stockholders will also be paid to Series D preferred stockholders on an as-converted to common stock basis. We also agreed that, at our 2013 annual meeting of stockholders, we would propose an amendment to the Series D Certificate of Designations, to modify the terms of the Series D preferred stock that currently require the payment of dividends to Series D preferred stockholders upon payment of dividends to Series E preferred stockholders. See Proposal Eight set forth elsewhere in this proxy statement. If Proposal Eight is approved by our stockholders, the Series E preferred stockholders would become entitled to receive dividends quarterly in arrears at the rate of 8% per annum and the Series D preferred stockholders would cease to be entitled to corresponding dividends. If Proposal Eight is not approved, the Series E preferred stockholders will no longer be entitled to receive dividends.

Under the terms of the Series E Purchase Agreement, we granted Pillar II participation rights in future financings. In addition, we agreed to use our best efforts to file a preliminary proxy statement for our 2013 annual meeting of stockholders that would, among other things, seek approval from our stockholders of the following matters:

- the issuance and sale by us to Pillar II (together with all prior issuances and sales to Pillar I) of a number of shares of common stock (including securities converted into or exercisable for common

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stock) that is greater than 19.99% of our outstanding common stock or the combined voting power of all of our securities then outstanding after such issuance and sale in accordance with Nasdaq Listing Rule 5635(b), or the Nasdaq Proposal;

an amendment to our Restated Certificate of Incorporation and bylaws, as necessary, to eliminate the classification of our board of directors; and

amendments to the Series D Certificate of Designations for our Series D preferred stock to modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the Series D preferred stockholders and to conform the beneficial ownership limitations applicable to the conversion of the Series D preferred stock to the beneficial ownership limitations applicable to the conversion of the Series E preferred stock.

These matters are set forth in Proposals Seven, Eight and Nine set forth elsewhere in this proxy statement.

Also under the terms of the Series E Purchase Agreement, each Series E preferred stockholder agreed:

for so long as the Series E preferred stockholder and its affiliates beneficially own more than 19.99% (prior to the date that our stockholders approve the Nasdaq Proposal) or 25% (effective upon the date that our stockholders approve the Nasdaq Proposal) of the outstanding common stock, that the Series E preferred stockholder and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion or exercise of securities that are convertible into or exercisable for shares of common stock held by such Series E preferred stockholder and its affiliates) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than the Series E preferred stockholder) vote on such matter;

to certain restrictions on the transfer of any securities issued to such Series E preferred stockholder (including securities convertible into or exercisable for common stock) pursuant to the convertible preferred stock and warrant purchase agreement including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer of more than 5% of the then outstanding combined voting power of our outstanding securities (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering by us that has been approved by our board of directors); and

to be subject to a standstill provision that continues for so long as such Series E preferred stockholder and its affiliates beneficially own more than 15% of our outstanding common stock.

After the later of November 9, 2014 and the date that no shares of Series D preferred stock remain outstanding, we may redeem all or a portion of the Series E preferred stock for a cash payment equal to the $14.00 original Series E preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon following notice to the Series E preferred stockholders if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 (400% of the $0.70 Series E preferred stock conversion price). We may not redeem any shares of Series E preferred stock from a Series E preferred stockholder that cannot convert such shares of Series E preferred stock into common stock as a result of the beneficial ownership limitations described above. In such event, we may redeem such nonredeemable shares for a cash payment equal to the greater of the 20 consecutive trading day average closing price per share of the common stock ending on the trading day immediately prior to redemption date plus any dividends accrued or declared but unpaid thereon and the Series E conversion price plus any dividends accrued or declared but unpaid thereon. After November 9, 2014, we also may redeem the Series E warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to the warrant holder if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 per share.

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In connection with the Series E Purchase Agreement, we filed a registration statement that became effective on January 17, 2013, registering the resale of the shares of common stock issuable upon conversion of the Series E preferred stock and the shares of common stock issuable upon exercise of the Series E warrants.

April 2013 Pillar Agreements

On April 22, 2013, we entered into an agreement with Pillar I and Pillar II, which we refer to as the April 22, 2013 Pillar Agreement. Under the April 22, 2013 Pillar Agreement, Pillar I irrevocably agreed to waive and not exercise the rights, powers, preferences and other terms of the Series D preferred stock under Section 6 of the Series D Certificate of Designations, including without limitation the right to require us to purchase all or any portion of the shares of our Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of our company or successor entity.

Under the April 22, 2013 Pillar Agreement, we and each of Pillar I and Pillar II agreed, among other things:

- to an amendment to the Series D Certificate of Designations for our Series D preferred stock that would:
  - modify the dividend provisions of the Series D Certificate of Designations to change the date after which we may elect to pay dividends in shares of our common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership and voting power limitations set forth the Series D Certificate of Designations; and
  - in connection with the waiver of the right to require us to purchase the Series D preferred stock upon the occurrence of specified fundamental changes, to modify the Series D Certificate of Designations to provide, in the event of a sale of the corporation, for the distribution of any assets that remain available for distribution to our stockholders, after payment to the holders of our Series A convertible preferred stock and any other class of our capital stock that ranks senior to our Series D preferred stock, to the holders of our Series D preferred stock on a pro rata basis with the holders of our common stock, Series E preferred stock and such new series of non-voting preferred stock; and
- to an amendment to the Certificate of Designations, Preferences and Rights of Series E Preferred Stock, or the Series E Certificate of Designations, that would:
  - modify the dividend provisions of the Series E Certificate of Designations to allow for the payment of dividends in shares of our common stock commencing October 1, 2013; and
  - allow for the payment of dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of our common stock as a result of the application of the beneficial ownership and voting power limitations set forth in the Series E Certificate of Designations.

These matters are set forth in Proposals Eight and Nine set forth elsewhere in this proxy statement.

In addition, on April 30, 2013, we entered into a second agreement with Pillar I, Pillar II and an entity affiliated with Pillar I and Pillar II, which we refer to collectively as the Pillar Entities, which we refer to as the April 30, 2013 Pillar Agreement. We refer to the April 30, 2013 Pillar Agreement and the April 22, 2013 Pillar Agreement collectively as the April Pillar Agreements.

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Under the April 30, 2013 Pillar Agreement, Pillar I irrevocably agreed to waive the right of the holders of the Series D preferred stock under Section 2.1 of the Series D Certificate of Designations to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of our company, or Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

In addition, under the April 30, 2013 Pillar Agreement, Pillar II and the entity affiliated with Pillar II, together the holders of 100% of the Series E preferred stock, irrevocably agreed to waive the right of the holders of the Series E preferred stock under Section 2.1.1 of the Series E Certificate of Designations to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series E preferred stock will receive under Section 2.1 of the Series E Certificate of Designations an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of our common stock immediately prior to such Liquidation.

Under the April Pillar Agreements, we agreed to seek approval from our stockholders at our 2013 annual meeting of stockholders of amendments to the Series D Certificate of Designations and Series E Certificate of Designations to effect these changes to the dividend and liquidation provisions of the Series D Certificate of Designations and Series E Certificate of Designations, the redemption rights of the holders of our Series D preferred stock and the rights of the holders of our Series D preferred stock to distributions in the event of a sale of the corporation. These matters are set forth in Proposals Eight and Nine set forth elsewhere in this proxy statement. Each applicable Pillar Entity agreed:

- to vote, and to cause its affiliates to vote, all shares of our voting stock held by such Pillar Entity or its affiliates, and over which such Pillar Entity or its affiliates has the power to vote, in favor of such amendments; and

- not to, and to cause its affiliates not to, sell or transfer any shares of our common stock, Series D preferred stock or Series E preferred stock held by such Pillar Entity or its affiliates to any person, entity or group unless such proposed transferee agrees in a written instrument executed by such transferee, the applicable Pillar Entity and us to take and hold such securities subject to, among other things, the April Pillar Agreements and to be bound by the terms of the April Pillar Agreements, including the waiver of rights, voting agreements and restrictions on transfer set forth therein.

Under the April 22, 2013 Pillar Agreement, in consideration of the agreements of Pillar I and II under the April 22, 2013 Pillar Agreement and the delivery of the waiver by Pillar I, and for no additional cash consideration, we have agreed to issue to Pillar I warrants, the Pillar I Warrants, to purchase up to 1,000,000 shares of our common stock. The Pillar I Warrants have an exercise price per share equal to the greater of $0.61.

In addition, under the April 30, 2013 Pillar Agreement, in consideration of the agreements of the Pillar Entities under the April 30, 2013 Pillar Agreement and the delivery of the waivers by the Pillar Entities, and for no additional cash consideration, we have agreed to issue to the Pillar Entities warrants, the Additional Pillar Warrants, and together with the Pillar I Warrants, the Pillar Warrants, to purchase up to an aggregate of 1,000,000 shares of our common stock. The Additional Pillar Warrants have an exercise price per share equal to the greater of $0.79.

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The Pillar I Warrants are exercisable immediately and will expire if not exercised on or prior to the fifth anniversary from the date of issuance. The Additional Pillar Warrants are each exercisable immediately and will expire if not exercised on or prior to June 1, 2014. The Pillar I Warrants provide that, after the second anniversary of the date of issuance, we may redeem such Pillar I Warrants for $0.01 per share of common stock issuable on exercise of such Pillar I Warrants following notice to the holder thereof if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80 per share.

In addition, we have agreed to file a registration statement to register the resale of the shares of common stock issuable upon exercise of the Pillar Warrants.

Public Offering

On May 7, 2013, we consummated an underwritten public offering of (i) 17,500,000 shares of our common stock and related warrants to purchase up to 17,500,000 shares of our common stock at an exercise price of $0.47 per share, and (ii) pre-funded warrants to purchase up to 15,816,327 shares of our common stock at an exercise price of $0.01 per share and related warrants to purchase up to 15,816,327 shares of our common stock at an exercise price of $0.47 per share. The gross proceeds to us from this offering were approximately $16.5 million, before deducting underwriting discounts and commissions and other estimated offering expenses payable by Idera and excluding the proceeds, if any, from the exercise of warrants.

Certain affiliates of Pillar Invest Corporation, including Pillar I and Pillar II, which as a group are currently a greater than 5% stockholder, participated in our underwritten public offering and purchased in the aggregate 5,000,000 shares of our common stock and warrants to purchase up to 5,000,000 shares of our common stock for an aggregate purchase price of $2,500,000. Mr. El Zein, and Mr. Umari, whom are currently members of our board of directors, are affiliates of Pillar I and Pillar II.

Policies and Procedures for Related Person Transactions

Our board of directors is committed to upholding the highest legal and ethical conduct in fulfilling its responsibilities and recognizes that related party transactions can present a heightened risk of potential or actual conflicts of interest. Accordingly, as a general matter, it is our preference to avoid related party transactions.

In accordance with our audit committee charter, members of the audit committee, all of whom are independent directors, review and approve all related party transactions for which approval is required under applicable laws or regulations, including SEC and the Nasdaq Listing Rules. Current SEC rules define a related party transaction to include any transaction, arrangement or relationship in which we are a participant and the amount involved exceeds $120,000, and in which any of the following persons has or will have a direct or indirect interest:

- our executive officers, directors or director nominees;
- any person who is known to be the beneficial owner of more than 5% of our common stock;
- any person who is an immediate family member, as defined under Item 404 of Regulation S-K, of any of our executive officers, directors or director nominees or beneficial owners of more than 5% of our common stock; or
- any firm, corporation or other entity in which any of the foregoing persons is employed or is a partner or principal or in a similar position or in which such person, together with any other of the foregoing persons, has a 5% or greater beneficial ownership interest.

In addition, the audit committee reviews and investigates any matters pertaining to the integrity of management, including conflicts of interest and adherence to our code of business conduct and ethics. Under our

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code of business conduct and ethics, our directors, officers and employees are expected to avoid any relationship, influence or activity that would cause or even appear to cause a conflict of interest. Under our code of business conduct and ethics, a director is required to promptly disclose to our board of directors any potential or actual conflict of interest involving him or her. In accordance with our code of business conduct and ethics, the board of directors will determine an appropriate resolution on a case-by-case basis. All directors must recuse themselves from any discussion or decision affecting their personal, business or professional interests.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Based solely on our review of copies of reports filed by individuals and entities required to make filings pursuant to Section 16(a) of the Exchange Act or written representations from such individuals or entities, we believe that during 2012 all filings required to be made by such individuals or entities were timely made in accordance with the Exchange Act, with the exception of one late Form 4 filed by Mr. El Zein on November 15, 2012 to report the purchase of 424,242 shares of Series E convertible preferred stock and warrants to purchase 8,484,840 shares of our common stock acquired on November 9, 2012 in connection with our November 2012 Series E preferred stock and warrant financing. See Transactions with Related Persons Series E Preferred Stock and Warrant Financing above for further information about our Series E preferred stock and warrant financing.

By order of the board of directors,

Louis J. Arcudi, III, Secretary

June 10, 2013

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APPENDIX A

PROPOSED AMENDMENTS TO OUR RESTATED CERTIFICATE OF INCORPORATION TO DECLASSIFY OUR BOARD OF DIRECTORS

The following are proposed changes to Article ELEVENTH of our Restated Certificate of Incorporation as described in Proposals 1(a), 1(b) and 1(c). The text indicated by underline will be added, and the text indicated by strike-through will be deleted.

ELEVENTH. This Article is inserted for the management of the business and for the conduct of the affairs of the Corporation~~n and shall no~~t ~~become effective until the closing of the sale of shares of Common Stock in an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $10,000,000 of gross proceeds to the Corporation (a "Public Offering")~~..

1. Number of Directors. The number of directors of the Corporation shall not be less than three. The exact number of directors within the limitations specified in the preceding sentence shall be fixed from time to time by, or in the manner provided in, the Corporation s By-Laws.

2. Classes of Directors. ~~The~~Until the election of directors at the annual meeting in 2015, the Board of Directors shall be and is divided into ~~three~~ classes~~: Class I, Class II and Class III. No one class shall have more than one director more than any other class. If a fraction is contained in the quotient arrived at by dividing the designated number of directors by three, then, if such fraction is one-third, the extra director shall be a member of Class II, and if such fraction is two-thirds, one of the extra directors shall be a member of Class I and one of the extra directors shall be a member of Class II, unless otherwise provided from time to time by resolution adopted by~~, with directors in each class having the terms of office specified in Section 4 of this Article ELEVENTH. Commencing with the election of directors at the annual meeting scheduled to be held in 2015, the classification of the Board of Directors shall cease, and all of the directors shall thereupon be elected for a term expiring at the next annual meeting of stockholders.

3. Election of Directors. Elections of directors need not be by written ballot except as and to the extent provided in the By-Laws of the Corporation.

4. Terms of Office. Each director shall serve for a term ending ~~on~~at the ~~date~~election of directors at the third annual meeting following the annual meeting at which such director was elected~~; provided, that each initial director in Class I shall serve for a term ending on the date of the annual meeting in 1996; each initial director in Class II shall serve for a term ending on the date of the annual meeting in 1997; and each initial director in Class III shall serve for a term ending on the date of the annual meeting in 1998; and provided further, that the~~. Notwithstanding the foregoing, commencing with the election of directors at the annual meeting in 2013, the successor of each director whose term expires at such meeting shall be elected for a term expiring at the annual meeting in 2014; for the election of directors at the annual meeting in 2014, the successor of each director whose term expires at such meeting shall be elected for a term expiring at the annual meeting scheduled to be held in 2015; and for the election of directors at the annual meeting in 2015 and for the election of directors at each annual meeting thereafter, each director shall be elected for a term expiring at the next succeeding annual meeting. The term of each director shall be subject to the election and qualification of his successor and to his earlier death, resignation or removal.

5. Allocation of Directors Among Classes in the Event of Increases or Decreases in the Number of Directors. ~~In~~Until the election of directors at the annual meeting in 2015, in the event of any increase or decrease in the authorized number of directors, (i) each director then serving as such shall nevertheless continue as a director of the class of which he is a member and (ii) the newly created or eliminated directorships resulting from such increase or decrease shall be apportioned by the Board of Directors among the ~~three~~ classes of directors ~~so as to ensure that no one class has more than one director more than any other class. To the extent possible, consistent~~

~~with the foregoing rule, any newly created directorships shall be added to those classes whose terms of office are to expire at the latest dates following such allocation, and any newly eliminated directorships shall be subtracted from those classes whose terms of offices are to expire at the earliest dates following such allocation, unless otherwise provided from time to time by resolution adopted by the Board of Directors.~~in it discretion.

6. Quorum; Action at Meeting. A majority of the directors at any time in office shall constitute a quorum for the transaction of business. In the event one or more of the directors shall be disqualified to vote at any meeting, then the required quorum shall be reduced by one for each director so disqualified, provided that in no case shall less than one-third of the number of directors fixed pursuant to Section 1 above constitute a quorum. If at any meeting of the Board of Directors there shall be less than such a quorum, a majority of those present may adjourn the meeting from time to time. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the Board of Directors unless a greater number is required by law, by the By-Laws of the Corporation or by this Restated Certificate of Incorporation.

7. Removal. ~~Directors~~Until the election of directors at the annual meeting in 2015, directors of the Corporation may be removed only for cause by the affirmative vote of the holders of at least two-thirds of the shares of the capital stock of the Corporation issued and outstanding and entitled to vote~~.~~ generally in the election of directors. Thereafter, any director of the Corporation may be removed, with or without cause, by the affirmative vote of the holders of a majority of the shares of the capital stock of the Corporation issued and outstanding and entitled to vote generally in the election of such director.

8. Vacancies. Any vacancy in the Board of Directors, however occurring, ~~including a vacancy~~or any newly created directorship resulting from an ~~enlargement of~~increase in the ~~board~~authorized number of directors, shall be filled only by a vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director. A director elected to fill a vacancy shall be elected ~~to~~for the unexpired term of his predecessor in office, and, until the election of directors at the annual meeting in 2015, a director chosen to fill a newly created directorship resulting from an increase in the number of directors shall hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of his successor and to his earlier death, resignation or removal.

9. Stockholder Nominations and Introduction of Business, Etc. Advance notice of stockholder nominations for election of directors and other business to be brought by stockholders before a meeting of stockholders shall be given in the manner provided by the By-Laws of the Corporation.

~~10. Amendments to Article. Notwithstanding any other provisions of law, this Restated Certificate of Incorporation or the By-Laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the shares of capital stock of the Corporation issued and outstanding and entitled to vote shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article ELEVENTH.~~

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APPENDIX B

PROPOSED AMENDMENTS TO OUR BYLAWS TO DECLASSIFY OUR BOARD OF DIRECTORS

The following are proposed changes to Article 2 of our Bylaws as described in Proposals 1(a), 1(b) and 1(c). The text indicated by underline will be added, and the text indicated by strike-through will be deleted.

ARTICLE 2 - Directors

2.1 General Powers. The business and affairs of the corporation shall be managed by or under the direction of a Board of Directors, who may exercise all of the powers of the corporation except as otherwise provided by law, the Certificate of Incorporation or these By-Laws. In the event of a vacancy in the Board of Directors, the remaining directors, except as otherwise provided by law, may exercise the powers of the full Board until the vacancy is filled.

2.2 Number; Election and Qualification. The number of directors which shall constitute the whole Board of Directors shall be determined by resolution of the Board of Directors, but in no event shall be less than three. The number of directors may be decreased at any time and from time to time by a majority of the directors then in office, but only to eliminate vacancies existing by reason of the death, resignation, removal or expiration of the term of one or more directors. The directors shall be elected at the annual meeting of stockholders by such stockholders as have the right to vote on such election. Directors need not be stockholders of the corporation.

2.3 Classes of Directors. ~~The~~Until the election of directors at the annual meeting in 2015, the Board of Directors shall be and is divided into ~~three~~ classes~~: Class I, Class II and Class III. No one class shall have more than one director more than any other class. If a fraction is contained in the quotient arrived at by dividing the designated number of directors by three, then, if such fraction is one-third, the extra director shall be a member of Class I, and if such fraction is two-thirds, one of the extra directors shall be a member of Class I and one of the extra directors shall be a member of Class II, unless otherwise provided from time to time by resolution adopted by~~, with directors in each class having the terms of office specified in Section 2.4. Commencing with the election of directors at the annual meeting in 2015, the classification of the Board of Directors shall cease, and directors shall thereupon be elected for a term expiring at the next annual meeting of stockholders.

2.4 Terms of Office. Each director shall serve for a term ending ~~on~~at the ~~date~~election of directors at the third annual meeting following the annual meeting at which such director was elected~~; provided, that each initial director in Class I shall serve for a term ending on the date of the annual meeting of stockholders in 1995; and each initial director in Class II shall serve for a term ending on the date of the annual meeting of stockholders in 1996; and that each initial director in Class III shall serve for a term ending on the date of the annual meeting of stockholders in 1997; and provided further, that the~~. Notwithstanding the foregoing, commencing with the election of directors at the annual meeting in 2013, the successor of each director whose term expires at such meeting shall be elected for a term expiring at the annual meeting in 2014; for the election of directors at the annual meeting in 2014, the successor of each director whose term expires at such meeting shall be elected for a term expiring at the annual meeting in 2015; and for the election of directors at the annual meeting in 2015 and for the election of directors at each annual meeting thereafter, each director shall be elected for a term expiring at the next succeeding annual meeting. The term of each director shall be subject to the election and qualification of his successor and to his earlier death, resignation or removal.

2.5 Allocation of Directors Among Classes in the Event of Increases or Decreases in the Number of Directors. ~~In~~Until the election of directors at the annual meeting in 2015, in the event of any increase or decrease in the authorized number of directors, (i) each director then serving as such shall nevertheless continue as a director of the class of which he is a member and (ii) the newly created or eliminated directorships resulting from

such increase or decrease shall be apportioned by the Board of Directors among the ~~three~~ classes of directors ~~so as to ensure that no one class has more than one director more than any other class. To the extent possible, consistent with the foregoing rule, any newly created directorships shall be added to those classes whose terms of office are to expire at the latest dates following such allocation, and any newly eliminated directorships shall be subtracted from those classes whose terms of offices are to expire at the earliest dates following such allocation, unless otherwise provided from time to time by resolution adopted by the Board of Directors.~~in its discretion.

2.6 Vacancies. Any vacancy in the Board of Directors, however occurring, ~~including a vacancy~~or any newly created directorship resulting from an ~~enlargement of~~increase in the ~~Board~~authorized number of directors, shall be filled only by a vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director. A director elected to fill a vacancy shall be elected for the unexpired term of his predecessor in office, and, until the election of directors at the annual meeting in 2015, a director chosen to fill a ~~position~~newly created directorship resulting from an increase in the number of directors shall hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of his successor and to his earlier death, resignation or removal.

2.7 Resignation. Any director may resign by delivering his written resignation to the corporation at its principal office or to the President or Secretary. Such resignation shall be effective upon receipt unless it is specified to be effective at some other time or upon the happening of some other event.

2.8 Regular Meetings. Regular meetings of the Board of Directors may be held without notice at such time and place, either within or without the State of Delaware, as shall be determined from time to time by the Board of Directors; provided that any director who is absent when such a determination is made shall be given notice of the determination. A regular meeting of the Board of Directors may be held without notice immediately after and at the same place as the annual meeting of stockholders.

2.9 Special Meetings. Special meetings of the Board of Directors may be held at any time and place, within or without the State of Delaware, designated in a call by the Chairman of the Board, Chief Executive Officer, or if there is no Chief Executive Officer, the President, two or more directors, or by one director in the event that there is only a single director in office.

2.10 Notice of Special Meetings. Notice of any special meeting of directors shall be given to each director by the Secretary or by the officer or one of the directors calling the meeting. Notice shall be duly given to each director (i) by giving notice to such director in person or by telephone at least 24 hours in advance of the meeting, (ii) by sending a telegram, telecopy, or telex, or delivering written notice by hand, to his last known business or home address at least 24 hours in advance of the meeting, or (iii) by mailing written notice to his last known business or home address at least 72 hours in advance of the meeting. A notice or waiver of notice of a meeting of the Board of Directors need not specify the purposes of the meeting.

2.11 Meetings by Telephone Conference Calls. Directors or any members of any committee designated by the directors may participate in a meeting of the Board of Directors or such committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and participation by such means shall constitute presence in person at such meeting.

2.12 Quorum. A majority of the total number of the whole Board of Directors shall constitute a quorum at all meetings of the Board of Directors. In the event one or more of the directors shall be disqualified to vote at any meeting, then the required quorum shall be reduced by one for each such director so disqualified; provided, however, that in no case shall less than one-third (1/3) of the number so fixed constitute a quorum. In the absence of a quorum at any such meeting, a majority of the directors present may adjourn the meeting from time to time without further notice other than announcement at the meeting, until a quorum shall be present.

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2.13 Action at Meeting. At any meeting of the Board of Directors at which a quorum is present, the vote of a majority of those present shall be sufficient to take any action, unless a different vote is specified by law, the Certificate of Incorporation or these By-Laws.

2.14 Action by Consent. Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee of the Board of Directors may be taken without a meeting, if all members of the Board or committee, as the case may be, consent to the action in writing, and the written consents are filed with the minutes of proceedings of the Board or committee.

2.15 Removal. ~~Directors~~Until the election of directors at the annual meeting in 2015, directors of the corporation may be removed only for cause by the affirmative vote of the holders of two-thirds of the shares of the capital stock of the corporation issued and outstanding and entitled to vote~~.~~ generally in the election of directors. Thereafter, any director of the corporation may be removed, with or without cause, by the affirmative vote of the holders of a majority of the shares of the capital stock of the corporation issued and outstanding and entitled to vote generally in the election of such director.

2.16 Committees. The Board of Directors may, by resolution passed by a majority of the whole Board, designate one or more committees, each committee to consist of one or more of the directors of the corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members of the committee present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors and subject to the provisions of the General Corporation Law of the State of Delaware, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation and may authorize the seal of the corporation to be affixed to all papers which may require it. Each such committee shall keep minutes and make such reports as the Board of Directors may from time to time request. Except as the Board of Directors may otherwise determine, any committee may make rules for the conduct of its business, but unless otherwise provided by the directors or in such rules, its business shall be conducted as nearly as possible in the same manner as is provided in these By-Laws for the Board of Directors.

2.17 Compensation of Directors. Directors may be paid such compensation for their services and such reimbursement for expenses of attendance at meetings as the Board of Directors may from time to time determine. No such payment shall preclude any director from serving the corporation or any of its parent or subsidiary corporations in any other capacity and receiving compensation for such service.

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APPENDIX C

CERTIFICATE OF AMENDMENT

TO THE

RESTATED CERTIFICATE OF INCORPORATION

OF

IDERA PHARMACEUTICALS, INC.

Idera Pharmaceuticals, Inc. (hereinafter called the Corporation), organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

By action of the Board of Directors of the Corporation at a meeting held on May 22, 2013, the Board of Directors of the Corporation duly adopted a resolution, pursuant to Section 242 of the General Corporation Law of the State of Delaware, setting forth an amendment to the Restated Certificate of Incorporation of the Corporation, as amended to date (the Certificate of Incorporation), and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment in accordance with Section 242 of the General Corporation Law of the State of Delaware at a meeting of stockholders held on July 26, 2013. The resolution setting forth the amendment is as follows:

RESOLVED: That the first paragraph of Article FOURTH of the Certificate of Incorporation be and hereby is amended and restated in its entirety so that the same shall read as follows:

FOURTH. The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) Two Hundred Eight Million (280,000,000) shares of Common Stock, $.001 par value per share (Common Stock), and (ii) Five Million (5,000,000) shares of Preferred Stock, $.01 par value per share (Preferred Stock), which may be issued from time to time in one or more series as set forth in Part B of this Article FOURTH.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its duly authorized officer this [ ] day of [ ], 2013.

IDERA PHARMACEUTICALS, INC.

By:
Sudhir Agrawal, D. Phil.
Chairman of the Board of Directors,
President and Chief Executive Officer

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APPENDIX D

IDERA PHARMACEUTICALS, INC.

2013 STOCK INCENTIVE PLAN

1. Purpose

The purpose of this 2013 Stock Incentive Plan (the ***Plan***) of Idera Pharmaceuticals, Inc., a Delaware corporation (the ***Company***), is to advance the interests of the Company s stockholders by enhancing the Company s ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company s stockholders. Except where the context otherwise requires, the term ***Company*** shall include any of the Company s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations thereunder (the ***Code***) and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the ***Board***).

2. Eligibility

All of the Company s employees, officers and directors, as well as consultants and advisors to the Company (as such terms are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended (the ***Securities Act***), or any successor form) are eligible to be granted Awards under the Plan. Each person who is granted an Award under the Plan is deemed a ***Participant***. ***Award*** means Options (as defined in Section 5), SARs (as defined in Section 6), Restricted Stock (as defined in Section 7), Restricted Stock Units (as defined in Section 7) and Other Stock-Based Awards (as defined in Section 8).

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board s sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a ***Committee***). All references in the Plan to the ***Board*** shall mean the Board or a Committee of the Board or the officers referred to in Section 3(c) to the extent that the Board s powers or authority under the Plan have been delegated to such Committee or officers.

(c) Delegation to Officers. To the extent permitted by applicable law, the Board may delegate to one or more officers of the Company the power to grant Options and other Awards that constitute rights under Delaware law (subject to any limitations under the Plan) to employees or officers of the Company and to exercise such other powers under the Plan as the Board may determine, *provided* that the Board shall fix the terms of such Awards to be granted by such officers (including the exercise price of such Awards, which may include a formula by which the exercise price will be determined) and the maximum number of shares subject to such Awards that the officers may grant; *provided further*, however, that no officer shall be authorized to grant such Awards to any executive officer of the Company (as defined by Rule 3b-7 under the Securities Exchange Act

of 1934, as amended (the ***Exchange Act***)) or to any officer of the Company (as defined by Rule 16a-1 under the Exchange Act). The Board may not delegate authority under this Section 3(c) to grant Restricted Stock, unless Delaware law then permits such delegation.

(d) Awards to Non-Employee Directors. Discretionary Awards to non-employee directors may be granted and administered only by a Committee, all of the members of which are independent directors as defined by Section 5605(a)(2) of the NASDAQ Marketplace Rules.

4. Stock Available for Awards

(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 9, Awards may be made under the Plan, any or all of which Awards may be in the form of Incentive Stock Options (as defined in Section 5(b)) for up to such number of shares of common stock, $0.001 par value per share, of the Company (the ***Common Stock***) as is equal to the sum of:

(A) 4,000,000 shares of Common Stock; plus

(B) such additional number of shares of Common Stock (up to 5,945,000 shares) as is equal to the sum of (x) the number of shares of Common Stock reserved for issuance under the Company s 2008 Stock Incentive Plan (the ***Existing Plan***) that remain available for grant under the Existing Plan immediately prior to the date this Plan is approved by the Company s stockholders and (y) the number of shares of Common Stock subject to awards granted under the Existing Plan which awards expire, terminate or are otherwise surrendered, canceled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right (subject, however, in the case of Incentive Stock Options to any limitations of the Code).

Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(2) Fungible Share Pool. Subject to adjustment under Section 9, any Award that is not a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) and 4(b)(2) as one share for each share of Common Stock subject to such Award and any Award that is a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) and 4(b)(2) as 1.25 shares for each one share of Common Stock subject to such Full-Value Award. Full-Value Award means any Award of Restricted Stock, Restricted Stock Unit Award or Other Stock-Based Award (as defined below) with a per share price or per unit purchase price lower than 100% of Fair Market Value (as defined below) on the date of grant. To the extent a share that was subject to an Award that counted as one share is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with one share. To the extent that a share that was subject to an Award that counts as 1.25 shares is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with 1.25 shares.

(3) Share Counting. For purposes of counting the number of shares available for the grant of Awards under the Plan and under the sublimits contained in Section 4(b)(2):

(A) all shares of Common Stock covered by SARs shall be counted against the number of shares available for the grant of Awards under the Plan and against the sublimit listed in the first clause of this Section 4(a)(3); *provided, however*, that (i) SARs that may be settled only in cash shall not be so counted and (ii) if the Company grants an SAR in tandem with an Option for the same number of shares of Common Stock and provides that only one such Award may be exercised (a ***Tandem SAR***), only the shares covered by the Option, and not the shares covered by the Tandem SAR, shall be so counted, and the expiration of one in connection with the other s exercise will not restore shares to the Plan;

(B) if any Award (i) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (ii) results in any Common Stock not being issued (including as a result of an SAR that was settleable either in cash or in stock actually being settled in cash), the unused Common Stock covered by such Award shall again be available for the grant of Awards; *provided, however*, that (1) in the case of Incentive Stock Options, the foregoing shall be subject to any limitations under the Code, (2) in the case of the exercise of an SAR, the number of shares counted against the shares available under the Plan and against the sublimit listed in the first clause of this Section 4(a)(3) shall be the full number of shares subject to the SAR multiplied by the percentage of the SAR actually exercised, regardless of the number of shares actually used to settle such SAR upon exercise and (3) the shares covered by a Tandem SAR shall not again become available for grant upon the expiration or termination of such Tandem SAR;

(C) shares of Common Stock delivered (either by actual delivery, attestation, or net exercise) to the Company by a Participant to (i) purchase shares of Common Stock upon the exercise of an Award or (ii) satisfy tax withholding obligations (including shares retained from the Award creating the tax obligation) shall not be added back to the number of shares available for the future grant of Awards; and

(D) shares of Common Stock repurchased by the Company on the open market using the proceeds from the exercise of an Award shall not increase the number of shares available for future grant of Awards.

(b) Sub-limits. Subject to adjustment under Section 9, the following sub-limits on the number of shares subject to Awards shall apply:

(1) Section 162(m) Per-Participant Limit. The maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 1,500,000 per calendar year. For purposes of the foregoing limit, (i) the combination of an Option in tandem with an SAR shall be treated as a single Award and (ii) each share of Common Stock subject to an Award (including each share of Common Stock subject to a Full-Value Award) shall be counted as one share of Common Stock. The per Participant limit described in this Section 4(b)(1) shall be construed and applied consistently with Section 162(m) of the Code or any successor provision thereto, and the regulations thereunder (***Section 162(m)***).

(2) Limit on Awards to Directors. The maximum number of shares with respect to which Awards may be granted to directors who are not employees of the Company at the time of grant shall be 20% of the maximum number of authorized shares set forth in Section 4(a)(1).

(c) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a)(1) or any sublimits contained in the Plan, except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an ***Option***) and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable.

(b) Incentive Stock Options. An Option that the Board intends to be an incentive stock option as defined in Section 422 of the Code (an ***Incentive Stock Option***) shall only be granted to employees of Idera Pharmaceuticals, Inc., any of Idera Pharmaceuticals, Inc. s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. An Option that is not intended to be an Incentive Stock Option shall be designated a ***Nonstatutory Stock Option***. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or if the Company converts an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify the exercise price in the applicable Option agreement. The exercise price shall be not less than 100% of the fair market value per share of Common Stock as determined by (or in a manner approved by) the Board (***Fair Market Value***) on the date the Option is granted; *provided* that if the Board approves the grant of an Option with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement; *provided, however*, that no Option will be granted with a term in excess of 10 years.

(e) Exercise of Options. Options may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with payment in full (in the manner specified in Section 5(f)) of the exercise price for the number of shares for which the Option is exercised. Shares of Common Stock subject to the Option will be delivered by the Company as soon as practicable following exercise.

(f) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash, by check or by wire transfer, payable to the order of the Company;

(2) except as may otherwise be provided in the applicable Option agreement or approved by the Board, in its sole discretion, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) to the extent provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the Participant valued at their Fair Market Value, provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be established by the Board in its discretion and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent provided for in the applicable Nonstatutory Stock Option agreement or approved by the Board in its sole discretion, by delivery of a notice of net exercise to the Company, as a result of which the Participant would receive (i) the number of shares underlying the portion of the Option being exercised, less (ii) such number of shares as is equal to (A) the aggregate exercise price for the portion of the Option being exercised divided by (B) the Fair Market Value on the date of exercise;

(5) to the extent permitted by applicable law and provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by payment of such other lawful consideration as the Board may determine; or

(6) by any combination of the above permitted forms of payment.

(g) Limitation on Repricing. Unless such action is approved by the Company s stockholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding Option granted under the Plan to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option, (2) cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(c)) covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled option, (3) cancel in exchange for a cash payment any outstanding Option with an exercise price per share above the then-current Fair Market Value, other than pursuant to Section 9, or (4) take any other action under the Plan that constitutes a repricing within the meaning of the rules of the NASDAQ Stock Market (***NASDAQ***).

(h) No Reload Options. No Option granted under the Plan shall contain any provision entitling the Participant to the automatic grant of additional Options in connection with any exercise of the original Option.

(i) No Dividend Equivalents. No option shall provide for the payment or accrual of Dividend Equivalents (as defined below).

6. Stock Appreciation Rights

(a) General. The Board may grant Awards consisting of stock appreciation rights (***SARs***) entitling the holder, upon exercise, to receive an amount of Common Stock or cash or a combination thereof (such form to be determined by the Board) determined by reference to appreciation, from and after the date of grant, in the Fair Market Value of a share of Common Stock over the measurement price established pursuant to Section 6(c). The date as of which such appreciation is determined shall be the exercise date.

(b) Grants. SARs may be granted in tandem with, or independently of, Options granted under the Plan.

(1) Tandem Awards. When SARs are expressly granted in tandem with Options, (i) the SAR will be exercisable only at such time or times, and to the extent, that the related Option is exercisable (except to the extent designated by the Board in connection with a Reorganization Event) and will be exercisable in accordance with the procedure required for exercise of the related Option; (ii) the SAR will terminate and no longer be exercisable upon the termination or exercise of the related Option, except to the extent designated by the Board in connection with a Reorganization Event and except that a SAR granted with respect to less than the full number of shares covered by an Option will not be reduced until the number of shares as to which the related Option has been exercised or has terminated exceeds the number of shares not covered by the SAR; (iii) the Option will terminate and no longer be exercisable upon the exercise of the related SAR; and (iv) the SAR will be transferable only with the related Option.

(2) Independent SARs. A SAR not expressly granted in tandem with an Option will become exercisable at such time or times, and on such conditions, as the Board may specify in the SAR Award.

(c) Measurement Price. The Board shall establish the measurement price of each SAR and specify it in the applicable SAR agreement. The measurement price shall not be less than 100% of the Fair Market Value on the date the SAR is granted; *provided* that if the Board approves the grant of an SAR effective as of a future date, the measurement price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of SARs. Each SAR shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable SAR agreement; *provided, however*, that no SAR will be granted with a term in excess of 10 years.

(e) Exercise of SARs. SARs may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with any other documents required by the Board.

(f) Limitation on Repricing. Unless such action is approved by the Company s stockholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding SAR granted under the Plan to provide a measurement price per share that is lower than the then-current measurement price per share of such outstanding SAR, (2) cancel any outstanding SAR (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(c)) covering the same or a different number of shares of Common Stock and having an exercise or measurement price per share lower than the then-current measurement price per share of the cancelled SAR, (3) cancel in exchange for a cash payment any outstanding SAR with a measurement price per share above the then-current Fair Market Value, other than pursuant to Section 9, or (4) take any other action under the Plan that constitutes a repricing within the meaning of the rules of NASDAQ.

(g) No Reload Rights. No SAR granted under the Plan shall contain any provision entitling the grantee to the automatic grant of additional SARs in connection with any exercise of the original SAR.

(h) No Dividend Equivalents. No SAR shall provide for the payment or accrual of Dividend Equivalents.

7. Restricted Stock; Restricted Stock Units

(a) General. The Board may grant Awards entitling recipients to acquire shares of Common Stock (***Restricted Stock***), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. The Board may also grant Awards entitling the recipient to receive shares of Common Stock or cash to be delivered at the time such Award vests (***Restricted Stock Units***) (Restricted Stock and Restricted Stock Units are each referred to herein as a ***Restricted Stock Award***).

(b) Terms and Conditions for All Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, if any.

(c) Additional Provisions Relating to Restricted Stock.

(1) Dividends. Unless otherwise provided in the applicable Award agreement, any dividends (whether paid in cash, stock or property) declared and paid by the Company with respect to shares of Restricted Stock (***Accrued Dividends***) shall be paid to the Participant only if and when such shares become free from the restrictions on transferability and forfeitability that apply to such shares. Each payment of Accrued Dividends will be made no later than the end of the calendar year in which the dividends are paid to stockholders of that class of stock or, if later, the 15th day of the third month following the lapsing of the restrictions on transferability and the forfeitability provisions applicable to the underlying shares of Restricted Stock.

(2) Stock Certificates. The Company may require that any stock certificates issued in respect of shares of Restricted Stock, as well as dividends or distributions paid on such Restricted Stock, shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates

no longer subject to such restrictions to the Participant or if the Participant has died, to his or her Designated Beneficiary. ***Designated Beneficiary*** means (i) the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant s death or (ii) in the absence of an effective designation by a Participant, the Participant s estate.

(d) Additional Provisions Relating to Restricted Stock Units.

(1) Settlement. Upon the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Stock Unit, the Participant shall be entitled to receive from the Company one share of Common Stock or (if so provided in the applicable Award agreement) an amount of cash equal to the Fair Market Value of one share of Common Stock. The Board may, in its discretion, provide that settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the Participant in a manner that complies with Section 409A of the Code.

(2) Voting Rights. A Participant shall have no voting rights with respect to any Restricted Stock Units.

(3) Dividend Equivalents. The Award agreement for Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock (***Dividend Equivalents***). Dividend Equivalents will be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which such Dividend Equivalents were granted.

8. Other Stock-Based Awards

(a) General. Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants (***Other Stock-Based-Awards***). Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine.

(b) Terms and Conditions. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto. Dividend Equivalents will be subject to the same restrictions on transfer and forfeitability as the Other Stock-Based Awards with respect to which such Dividend Equivalents were granted.

9. Adjustments for Changes in Common Stock and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under the Plan, (ii) the share counting rules and sublimits set forth in Sections 4(a) and 4(b), (iii) the number and class of securities and exercise price per share of each outstanding Option, (iv) the share and per-share provisions and the measurement price of each outstanding SAR, (v) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award and (vi) the share and per-share-related provisions and the purchase price, if any, of each outstanding Other Stock-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive,

on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A ***Reorganization Event*** shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled, (b) any transfer or disposition of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Restricted Stock.

(A) In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Stock on such terms as the Board determines (except to the extent specifically provided otherwise in an applicable Award agreement or another agreement between the Company and the Participant): (i) provide that such Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that all of the Participant s unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant (to the extent then exercisable) within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the ***Acquisition Price***), make or provide for a cash payment to Participants with respect to each Award held by a Participant equal to (A) the number of shares of Common Stock subject to the vested portion of the Award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such Reorganization Event) multiplied by (B) the excess, if any, of (I) the Acquisition Price over (II) the exercise, measurement or purchase price of such Award and any applicable tax withholdings, in exchange for the termination of such Award, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 9(b)(2), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

(B) Notwithstanding the terms of Section 9(b)(2)(A), in the case of outstanding Restricted Stock Units that are subject to Section 409A of the Code: (i) if the applicable Restricted Stock Unit agreement provides that the Restricted Stock Units shall be settled upon a change in control event within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(i), and the Reorganization Event constitutes such a change in control event , then no assumption or substitution shall be permitted pursuant to Section 9(b)(2)(A)(i) and the Restricted Stock Units shall instead be settled in accordance with the terms of the applicable Restricted Stock Unit agreement; and (ii) the Board may only undertake the actions set forth in clauses (iii), (iv) or (v) of Section 9(b)(2)(A) if the Reorganization Event constitutes a change in control event as defined under Treasury Regulation Section 1.409A-3(i)(5)(i) and such action is permitted or required by Section 409A of the Code; if the Reorganization Event is not a change in control event as so defined or such action is not permitted or required by Section 409A of the Code, and the acquiring or succeeding corporation does not assume or substitute the Restricted Stock Units pursuant to clause (i) of Section 9(b)(2)(A), then the unvested Restricted Stock Units shall terminate immediately prior to the consummation of the Reorganization Event without any payment in exchange therefor.

(C) For purposes of Section 9(b)(2)(A)(i), an Award (other than Restricted Stock) shall be considered assumed if, following consummation of the Reorganization Event, such Award confers the right to purchase or receive pursuant to the terms of such Award, for each share of Common Stock subject to the Award immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); *provided, however*, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise or settlement of the Award to consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the Board determined to be equivalent in value (as of the date of such determination or another date specified by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

(3) Consequences of a Reorganization Event on Restricted Stock. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company with respect to outstanding Restricted Stock shall inure to the benefit of the Company s successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to such Restricted Stock; *provided*, *however*, that the Board may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, either initially or by amendment. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, all restrictions and conditions on all Restricted Stock then outstanding shall automatically be deemed terminated or satisfied.

10. General Provisions Applicable to Awards

(a) Transferability of Awards. Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant; *provided, however*, that the Board may permit or provide in an Award for the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if the Company would be eligible to use a Form S-8 under the Securities Act for the registration of the sale of the Common Stock subject to such Award to such proposed transferee; *provided further*, that the Company shall not be required to recognize any such permitted transfer until such time as such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees. For the avoidance of doubt, nothing contained in this Section 10(a) shall be deemed to restrict a transfer to the Company.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, retirement, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant s legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) Withholding. The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Common Stock under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise, vesting or release from forfeiture of an Award or at the same time as payment of the exercise or purchase price, unless the Company determines otherwise. If provided for in an Award or approved by the Board in its sole discretion, a Participant may satisfy such tax obligations in whole or in part by delivery (either by actual delivery or attestation) of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; *provided, however*, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company s minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares used to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award. Except as otherwise provided in Section 5(g) with respect to repricings, Section 10(i) with respect to Performance Awards or Section 11(d) with respect to actions requiring stockholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant s consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, does not materially and adversely affect the Participant s rights under the Plan or (ii) the change is permitted under Section 9.

(g) Conditions on Delivery of Stock. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously issued or delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company s counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and regulations and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. The Board may at any time provide that any Award shall become immediately exercisable in whole or in part, free of some or all restrictions or conditions, or otherwise realizable in whole or in part, as the case may be.

(i) Performance Awards.

(1) Grants. Restricted Stock Awards and Other Stock-Based Awards under the Plan may be made subject to the achievement of performance goals pursuant to this Section 10(i) (***Performance Awards***). Performance Awards can also provide for cash payments of up to $1,500,000 per fiscal year per individual.

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(2) Committee. Grants of Performance Awards to any Covered Employee (as defined below) intended to qualify as performance-based compensation under Section 162(m) (***Performance-Based Compensation***) shall be made only by a Committee (or a subcommittee of a Committee) comprised solely of two or more directors eligible to serve on a committee making Awards qualifying as performance-based compensation under Section 162(m). In the case of such Awards granted to Covered Employees, references to the Board or to a Committee shall be treated as referring to such Committee (or subcommittee). ***Covered Employee*** shall mean any person who is, or whom the Committee, in its discretion, determines may be, a covered employee under Section 162(m)(3) of the Code.

(3) Performance Measures. For any Award that is intended to qualify as Performance-Based Compensation, the Committee shall specify that the degree of granting, vesting and/or payout shall be subject to the achievement of one or more objective performance measures established by the Committee, which shall be based on the relative or absolute attainment of specified levels of one or any combination of the following, which may be determined pursuant to generally accepted accounting principles (***GAAP***) or on a non-GAAP basis, as determined by the Committee: (a) earnings per share, (b) return on average equity or average assets with respect to a pre-determined peer group, (c) earnings, (d) earnings growth, (e) revenues, (f) expenses, (g) stock price, (h) market share, (i) return on sales, assets, equity or investment, (j) regulatory compliance, (k) achievement of balance sheet or income statement objectives, (l) total shareholder return, (m) net operating profit after tax, (n) pre-tax or after tax income, (o) cash flow, (p) achievement of research, development, clinical or regulatory milestones, (q) product sales, (r) business development activities, (s) the entry into an arrangement or agreement with a third party for the development, commercialization, marketing or distribution of products, services or technologies, or for conducting a research program to discover and develop a product, service or technology, and/or the achievement of milestones under such arrangement or agreement, including events that trigger an obligation or payment right, (t) achievement of domestic and international regulatory milestones, including the submission of filings required to advance products, services and technologies in clinical development and the achievement of approvals by regulatory authorities relating to the commercialization of products, services and technologies, (u) the achievement of discovery, preclinical and clinical stage scientific objectives, discoveries or inventions for products, services and technologies under research and development, (v) the entry into or completion of a phase of clinical development for any product, service or technology, such as the entry into or completion of phase 1, 2 and/or 3 clinical trials, (w) the consummation of debt or equity financing transactions, or acquisitions of business, technologies and assets, (x) new product or service releases, (y) specified levels of product sales, net income, earnings before or after discontinued operations, interest, taxes, depreciation and/or amortization, operating profit before or after discontinued operations and/or taxes, sales, sales growth, earnings growth, cash flow or cash position, gross margins, stock price, market share, return on sales, assets, equity or investment and (z) improvement of financial ratings. Such goals may reflect absolute entity or business unit performance or a relative comparison to the performance of a peer group of entities or other external measure of the selected performance criteria and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. The Committee may specify that such performance measures shall be adjusted to exclude any one or more of (i) extraordinary items, (ii) gains or losses on the dispositions of discontinued operations, (iii) the cumulative effects of changes in accounting principles, (iv) the writedown of any asset, (v) fluctuation in foreign currency exchange rates, and (vi) charges for restructuring and rationalization programs. Such performance measures: (i) may vary by Participant and may be different for different Awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in which the Participant works and may cover such period as may be specified by the Committee; and (iii) shall be set by the Committee within the time period prescribed by, and shall otherwise comply with the requirements of, Section 162(m). Awards that are not intended to qualify as Performance-Based Compensation may be based on these or such other performance measures as the Board may determine.

(4) Adjustments. Notwithstanding any provision of the Plan, with respect to any Performance Award that is intended to qualify as Performance-Based Compensation, the Committee may adjust downwards, but not upwards, the cash or number of shares payable pursuant to such Award, and the Committee may not waive the

achievement of the applicable performance measures except in the case of the death or disability of the Participant or a change in control of the Company.

(5) Other. The Committee shall have the power to impose such other restrictions on Performance Awards as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for Performance-Based Compensation. Dividend Equivalents will be subject to the same restrictions on transfer and forfeitability as the Performance Awards with respect to which such Dividend Equivalents were granted.

11. Miscellaneous

(a) No Right To Employment or Other Status. No person shall have any claim or right to be granted an Award by virtue of the adoption of the Plan, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Stockholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

(c) Effective Date and Term of Plan. The Plan shall become effective on the date the Plan is approved by the Company s stockholders (the ***Effective Date***). No Awards shall be granted under the Plan after the expiration of 10 years from the Effective Date, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that (i) to the extent required by Section 162(m), no Award granted to a Participant that is intended to comply with Section 162(m) after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award, unless and until the Company s stockholders approve such amendment in the manner required by Section 162(m); (ii) no amendment that would require stockholder approval under the rules of NASDAQ may be made effective unless and until the Company s stockholders approve such amendment; and (iii) if the NASDAQ amends its corporate governance rules so that such rules no longer require stockholder approval of NASDAQ material amendments to equity compensation plans, then, from and after the effective date of such amendment to the NASDAQ rules, no amendment to the Plan (A) materially increasing the number of shares authorized under the Plan (other than pursuant to Section 4(c) or 9), (B) expanding the types of Awards that may be granted under the Plan, or (C) materially expanding the class of participants eligible to participate in the Plan shall be effective unless and until the Company s stockholders approve such amendment. In addition, if at any time the approval of the Company s stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 11(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment, taking into account any related action, does not materially and adversely affect the rights of Participants under the Plan.

(e) Authorization of Sub-Plans (including for Grants to non-U.S. Employees). The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable securities, tax or other laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to the Plan containing (i) such limitations on the Board s discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

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(f) Compliance with Section 409A of the Code. Except as provided in individual Award agreements initially or by amendment, if and to the extent (i) any portion of any payment, compensation or other benefit provided to a Participant pursuant to the Plan in connection with his or her employment termination constitutes nonqualified deferred compensation within the meaning of Section 409A of the Code and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of separation from service (as determined under Section 409A of the Code) (the ***New Payment Date***), except as Section 409A of the Code may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

The Company makes no representations or warranty and shall have no liability to the Participant or any other person if any provisions of or payments, compensation or other benefits under the Plan are determined to constitute nonqualified deferred compensation subject to Section 409A of the Code but do not to satisfy the conditions of that section.

(g) Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer, employee or agent of the Company will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability, or expense incurred in connection with the Plan, nor will such individual be personally liable with respect to the Plan because of any contract or other instrument he or she executes in his or her capacity as a director, officer, employee or agent of the Company. The Company will indemnify and hold harmless each director, officer, employee or agent of the Company to whom any duty or power relating to the administration or interpretation of the Plan has been or will be delegated, against any cost or expense (including attorneys fees) or liability (including any sum paid in settlement of a claim with the Board s approval) arising out of any act or omission to act concerning the Plan unless arising out of such person s own fraud or bad faith.

(h) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than the State of Delaware.

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APPENDIX E

PART (A)

RESOLVED, that Section 1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

~~1.~~ 1.1 Series D Preferred Dividends.

~~1.1~~ 1.1.1 Each holder of Series D Preferred Stock shall be entitled to receive, with respect to each share of Series D Preferred Stock then outstanding and held by such holder of Series D Preferred Stock, dividends, commencing from the date of issuance of such share of Series D Preferred Stock, at the rate of seven percent (7%) per annum (on the basis of a 360 day year) of the Series D Original Issue Price (as defined below) (the **Series D Preferred Dividends**). The Series D Preferred Dividends shall be cumulative, whether or not earned or declared, shall be paid quarterly in arrears on the last day of December, March, June and September (a **Quarterly Dividend Payment Date**) in each year that Series D Preferred Stock is outstanding, with the first Quarterly Dividend Payment Date being December 31, 2011, and shall be prorated for periods shorter than one quarter. The rights of a holder of Series D Preferred Stock as Series D Preferred Dividends shall rank senior to the rights of the Corporation s Series A Convertible Preferred Stock as to dividends.

1.1.2 The Series D Preferred Dividends shall be paid to each holder of Series D Preferred Stock in cash out of legally available funds or, at the Corporation s election, through the issuance of such number of shares of the Corporation s Common Stock, par value $0.001 per share (the **Common Stock**) (rounded down to the nearest whole share with any fractional shares being issued in cash in an amount equal to the Market Price (as defined in Section 4.2 below) of such fractional share of Common Stock) determined by dividing the amount of the total accrued but unpaid dividends then outstanding on such holder s shares of Series D Preferred Stock by the Market Price then in effect (which for this purpose may not be less than $1.46 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); provided, however, that (i) the Corporation may not pay such dividends in shares of Common Stock on or prior to ~~December 31~~October 1, ~~2014~~2013, (ii) the Corporation may not issue shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such issuance, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the **Exchange Act**), to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation following such issuance, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such issuance, unless and until, in either case~~, the Corporation obtains the requisite stockholder approval under NASDAQ Marketplace Rule 5635(b) (the **Issuance Limitation**~~ of clause (a) and clause (b) of this Section 1.1.2, the stockholders of the Corporation approve the Nasdaq Proposal (as defined by and in accordance with Section 5.11(B) of that certain Convertible Preferred Stock and Warrant Purchase Agreement, dated November 9, 2012, between the Corporation and the Purchasers named therein), in which case, the ~~Issuance Limitation~~19.99% limitation under ~~this~~ clause ~~(ii) shall no longer apply to the payment of dividends hereunder~~ a) and (b) of this Section 1.1.2 shall be increased, with respect to any holder of Series D Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 1.1.2, and (iii) if clause (ii) shall in fact limit the issuance of any shares of Common Stock in payment of a given dividend, then the Corporation s election to pay such dividend in shares of Common Stock shall be ineffective to the extent of such limitation and such dividend shall instead thereupon be paid, at the Corporation s election, (x) in cash by the Corporation out of legally available funds or (y) through the issuance of a number of shares of the Corporation s Series F Convertible Preferred Stock, par value $0.01 per share (the **Series F**

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Preferred Stock) equal to one-twentieth (1/20) of the number of shares of Common Stock that the Corporation could have issued pursuant to this Section 1.1.2 with respect to such Series D Preferred Dividends but for the limitations set forth in clause (a) and clause (b) of this Section 1.1.2.

1.1.3 Any election by the Corporation to pay Series D Preferred Dividends in cash or in shares of Common Stock or Series F Preferred Stock shall be made uniformly with respect to all outstanding shares of Series D Preferred Stock for a given dividend period.

1.1.4 For purposes of this Section 1.1 the aggregate number of shares of Common Stock or voting securities beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act, shall include the shares of Common Stock to be issued as part of such dividend payment, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

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RESOLVED, that Section 1.3 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

1.3 The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock ~~and,~~ dividends on the Series A Convertible Preferred Stock in accordance with Section 2(a) of the Certificate of Designations for the Series A Convertible Preferred Stock~~)~~ and dividends on the Series E Preferred Stock in accordance with Section 1.1 of the Certificate of Designations for the Series E Convertible Preferred Stock unless the holders of the Series D Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Series D Preferred Stock in an amount at least equal to the sum of (i) the amount of the aggregate dividends then accrued on such share of Series D Preferred Stock and not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Series D Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of Series D Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Series D Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the Series D Original Issue Price; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Series D Preferred Stock pursuant to this Section 1.3 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series D Preferred Stock dividend.

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RESOLVED, that Section 2.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.1 Payments to Holders of Series D Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series D Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock, Series A Convertible Preferred Stock or any other class of capital stock of the Corporation ranking junior to the Series D Preferred Stock as to liquidation, by reason of their ownership thereof, an amount per share equal to ~~the greater of (i) the Series D Original Issue Price, plus any dividends accrued or declared but unpaid thereon, or (ii)~~ such amount ~~per share~~ as would have been payable with respect to such share had all shares of Series D Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up, disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.1. If upon any such liquidation, dissolution or winding up of the Corporation, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series D Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series D Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

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RESOLVED, that Section 4.1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

4.1.1 Conversion Ratio. Each share of Series D Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series D Original Issue Price by the Series D Conversion Price (as defined below) in effect at the time of conversion. The Series D Conversion Price shall initially be equal to $1.6275. Such initial Series D Conversion Price, and the rate at which shares of Series D Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. Notwithstanding the foregoing, the Corporation shall not effect any conversion of such holder s Series D Preferred Stock and such holder shall not be entitled to convert its shares of Series D Preferred Stock for a number of shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such conversion, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation (including for such purpose the shares of Common Stock issuable upon conversion of the Series D Preferred Stock) following such conversion, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such conversion, unless, in either case, the ~~Corporation obtains the requisite stockholder approval under NASDAQ Marketplace Rule 5635(b) unless~~stockholders of the Corporation ~~obtains the requisite stockholder approval under NASDAQ Marketplace Rule 5635(b)~~approve the Nasdaq Proposal, in which case, ~~this~~the 19.99% limitation under clause (a) and clause (b) of this Section 4.1.1 shall ~~no longer apply to the holder~~be increased, with respect to any holder of Series D Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 4.1.1. For purposes of this Section 4.1.1, the aggregate number of shares of Common Stock or

voting securities beneficially owned by the holder and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the conversion of the Series D Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

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RESOLVED, that Section 4.1.2 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

4.1.2 Termination of Conversion Rights. In the event of a notice of redemption of any shares of Series D Preferred Stock pursuant to Section 5 ~~or 6~~, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a liquidation, dissolution or winding up of the Corporation or a Sale of the Corporation (as defined in Section 6.2 below), the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Series D Preferred Stock.

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RESOLVED, that Section 6 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

6. ~~Fundamental Change Redemption~~Sale of the Corporation.

6.1 In the event of a Sale of the Corporation (as defined below) after payment shall be made to the holders of Series A Convertible Preferred Stock and any other class of capital stock of the Corporation ranking senior to the Series D Preferred Stock upon a Sale of the Corporation, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series D Preferred Stock, Series E Preferred Stock and Common Stock pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of the Certificate of Incorporation immediately prior to such Sale of the Corporation disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.1.

6.2 The term **Sale of the Corporation** shall mean each of the following events: (a) a merger or consolidation in which (i) the Corporation is a constituent party or (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation (except in the case of clause (i) and (ii), any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by

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voting power, of the capital stock of (y) the surviving or resulting corporation or (z) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or (b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation. For the purposes of clarity, a Sale of the Corporation shall not be deemed to be a liquidation, dissolution or winding up of the Corporation for the purposes of this Section 6.

6.1 Fundamental Change. Upon the occurrence of a Fundamental Change, each holder of shares *of Series D Preferred Stock* may, at its sole option, require the Corporation to purchase all or a portion of its shares of Series D Preferred Stock (the "**Fundamental Change Redemption**") at a price equal to Redemption Price. A "Fundamental Change" shall mean any of the following events:

(a) any "person" or "group" (each term as defined in the Exchange Act) that is not an affiliate of any holder of shares of Series D Preferred Stock becoming the "beneficial owner" (as defined in the Exchange Act) of voting securities of the Corporation, representing 66 2/3% or more of the outstanding voting securities of the Corporation (treating all securities convertible or exchangeable into or exercisable for shares of Common Stock as having been fully converted, exchanged and exercised, without regard to any exercise, conversion or exchange limitations therein) other than in connection with a transaction described in clause (d) below;

(b) the recapitalization or reclassification of the Common Stock of the Corporation;

(c) a sale of all or *substantially all of the assets of the* Corporation's assets to a person that is not an affiliate of any holder of shares of Series D Preferred Stock; or

(d) a merger, consolidation, business combination or similar transaction the result of which a "person" or "group" (each as defined in the Exchange Act) that is not an affiliate of any holder of shares of Series D Preferred Stock owns voting securities representing 66 2/3% or more of the outstanding voting securities of the surviving entity upon completion of such transaction.

6.2 Exercise of Fundamental Change Redemption Option. The Company shall send a written notice (the "**Fundamental Change Notice**") to each holder of shares of *Series D Preferred Stock* of (i) the occurrence of a Fundamental Change described in Subsection 6.1(a) above, within 10 days of the Corporation's becoming aware of the occurrence of such Fundamental Change, and (ii) a Fundamental Change described in Subsection 6.1(b)-(d) above, in accordance with Section 4.10. The Fundamental Change Notice shall describe the Fundamental Change and state that each holder of shares of Series D Preferred Stock has the right to require a Fundamental Change Redemption. In order to require a Fundamental Change Redemption, a holder of Series D Preferred Stock must deliver written notice to the Corporation requesting the Fundamental Change Redemption within five days after the date of the Fundamental Change Notice and stating the number of shares of Series D Preferred Stock to be redeemed. Unless prohibited by Delaware law governing distributions to stockholders, the Corporation shall redeem *the shares of Series D Preferred Stock* requested to be redeemed at a price equal to the Redemption Price and on a date to be fixed by the Corporation which shall not be more than 30 days from the date of the last timely delivered Fundamental Change Redemption request. If, on the date of the Fundamental Change Redemption, Delaware law governing distributions to stockholders prevents the Corporation from redeeming all shares of Series D *Preferred Stock* to be redeemed, the Corporation shall ratably redeem the maximum *number of shares* that it may redeem consistent with such law, and shall redeem the remaining shares as soon as it may lawfully do so under such law.

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6.3 Redemption Notice. Following receipt of a timely request for a Fundamental Change Redemption by a *holder of Series D Preferred Stock,* the Corporation shall send written notice of the mandatory redemption to the holder stating:

(a) the date fixed for the Fundamental Redemption (the "**Fundamental Redemption Date**") and the Redemption Price;

(b) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Subsection 4.1); and

(c) that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Series D Preferred Stock to be redeemed.

6.4 Surrender of Certificates; Payment. On or before the Fundamental Redemption Date, each holder of shares of Series D Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the notice from the Corporation, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Series D Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Series D Preferred Stock shall promptly be issued to such holder.

6.5 Rights Subsequent to Redemption. If on the Fundamental Redemption Date the Redemption Price payable upon redemption of the shares of the Series D Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that the certificates evidencing any of the shares of Series D Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Series D Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Fundamental Redemption Date terminate, except only the right to the holders to receive the Redemption Price without interest upon surrender of their certificate or certificates therefor.

6.6 Fundamental Change and Dividends. Upon the occurrence of a Fundamental Change as described in Subsection 6.1(c) (d), the Company's obligation to pay *Series D Preferred Dividends* shall terminate.

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APPENDIX E

PART (B)

RESOLVED, that Section 1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

~~1.~~ 1.1 Series D Preferred Dividends.

~~1.1~~ 1.1.1 Each holder of Series D Preferred Stock shall be entitled to receive, with respect to each share of Series D Preferred Stock then outstanding and held by such holder of Series D Preferred Stock, dividends, commencing from the date of issuance of such share of Series D Preferred Stock, at the rate of seven percent (7%) per annum (on the basis of a 360 day year) of the Series D Original Issue Price (as defined below) (the **Series D Preferred Dividends**). The Series D Preferred Dividends shall be cumulative, whether or not earned or declared, shall be paid quarterly in arrears on the last day of December, March, June and September (a **Quarterly Dividend Payment Date**) in each year that Series D Preferred Stock is outstanding, with the first Quarterly Dividend Payment Date being December 31, 2011, and shall be prorated for periods shorter than one quarter. The rights of a holder of Series D Preferred Stock as Series D Preferred Dividends shall rank senior to the rights of the Corporation s Series A Convertible Preferred Stock as to dividends.

1.1.2 The Series D Preferred Dividends shall be paid to each holder of Series D Preferred Stock in cash out of legally available funds or, at the Corporation s election, through the issuance of such number of shares of the Corporation s Common Stock, par value $0.001 per share (the **Common Stock**) (rounded down to the nearest whole share with any fractional shares being issued in cash in an amount equal to the Market Price (as defined in Section 4.2 below) of such fractional share of Common Stock) determined by dividing the amount of the total accrued but unpaid dividends then outstanding on such holder s shares of Series D Preferred Stock by the Market Price then in effect (which for this purpose may not be less than $1.46 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); provided, however, that (i) the Corporation may not pay such dividends in shares of Common Stock on or prior to December 31, 2014, (ii) the Corporation may not issue shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such issuance, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the **Exchange Act**), to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation following such issuance, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such issuance, unless and until, in either case~~, the Corporation obtains the requisite stockholder approval under NASDAQ Marketplace Rule 5635(b) (the **Issuance Limitation**~~ of clause (a) and clause (b) of this Section 1.1.2, the stockholders of the Corporation approve the Nasdaq Proposal (as defined by and in accordance with Section 5.11(B) of that certain Convertible Preferred Stock and Warrant Purchase Agreement, dated November 9, 2012, between the Corporation and the Purchasers named therein), in which case, the ~~Issuance Limitation~~19.99% limitation under ~~this~~ clause ~~(ii) shall no longer apply to the payment of dividends hereunder~~a) and (b) of this Section 1.1.2 shall be increased, with respect to any holder of Series D Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 1.1.2, and (iii) if clause (ii) shall in fact limit the issuance of any shares of Common Stock in payment of a given dividend, then the Corporation s election to pay such dividend in shares of Common Stock shall be ineffective to the extent of such limitation and such dividend shall instead thereupon be paid in cash by the Corporation out of legally available funds.

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1.1.3 Any election by the Corporation to pay Series D Preferred Dividends in cash or shares of Common Stock shall be made uniformly with respect to all outstanding shares of Series D Preferred Stock for a given dividend period.

1.1.4 For purposes of this Section 1.1 the aggregate number of shares of Common Stock or voting securities beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act, shall include the shares of Common Stock to be issued as part of such dividend payment, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

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RESOLVED, that Section 4.1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

4.1.1 Conversion Ratio. Each share of Series D Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series D Original Issue Price by the Series D Conversion Price (as defined below) in effect at the time of conversion. The Series D Conversion Price shall initially be equal to $1.6275. Such initial Series D Conversion Price, and the rate at which shares of Series D Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. Notwithstanding the foregoing, the Corporation shall not effect any conversion of such holder s Series D Preferred Stock and such holder shall not be entitled to convert its shares of Series D Preferred Stock for a number of shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such conversion, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation (including for such purpose the shares of Common Stock issuable upon conversion of the Series D Preferred Stock) following such conversion, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such conversion, unless, in either case, the ~~Corporation obtains the requisite stockholder approval under NASDAQ Marketplace Rule 5635(b) unless~~stockholders of the Corporation ~~obtains the requisite stockholder approval under NASDAQ Marketplace Rule 5635(b)~~approve the Nasdaq Proposal, in which case, ~~this~~the 19.99% limitation under clause (a) and clause (b) of this Section 4.1.1 shall ~~no longer apply to the holder~~be increased, with respect to any holder of Series D Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 4.1.1. For purposes of this Section 4.1.1, the aggregate number of shares of Common Stock or voting securities beneficially owned by the holder and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the conversion of the Series D Preferred Stock with respect to which such determination is being made, but shall

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exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

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APPENDIX E

PART (C)

RESOLVED, that Section 1.3 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

1.3 The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock ~~and~~, dividends on the Series A Convertible Preferred Stock in accordance with Section 2(a) of the Certificate of Designations for the Series A Convertible Preferred Stock~~)~~ and dividends on the Series E Preferred Stock in accordance with Section 1.1 of the Certificate of Designations for the Series E Convertible Preferred Stock unless the holders of the Series D Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Series D Preferred Stock in an amount at least equal to the sum of (i) the amount of the aggregate dividends then accrued on such share of Series D Preferred Stock and not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Series D Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of Series D Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Series D Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the Series D Original Issue Price; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Series D Preferred Stock pursuant to this Section 1.3 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series D Preferred Stock dividend.

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APPENDIX E

PART (D)

RESOLVED, that Section 1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

~~1.~~ 1.1 Series D Preferred Dividends.

~~1.1~~ 1.1.1 Each holder of Series D Preferred Stock shall be entitled to receive, with respect to each share of Series D Preferred Stock then outstanding and held by such holder of Series D Preferred Stock, dividends, commencing from the date of issuance of such share of Series D Preferred Stock, at the rate of seven percent (7%) per annum (on the basis of a 360 day year) of the Series D Original Issue Price (as defined below) (the **Series D Preferred Dividends**). The Series D Preferred Dividends shall be cumulative, whether or not earned or declared, shall be paid quarterly in arrears on the last day of December, March, June and September (a **Quarterly Dividend Payment Date**) in each year that Series D Preferred Stock is outstanding, with the first Quarterly Dividend Payment Date being December 31, 2011, and shall be prorated for periods shorter than one quarter. The rights of a holder of Series D Preferred Stock as Series D Preferred Dividends shall rank senior to the rights of the Corporation s Series A Convertible Preferred Stock as to dividends.

1.1.2 The Series D Preferred Dividends shall be paid to each holder of Series D Preferred Stock in cash out of legally available funds or, at the Corporation s election, through the issuance of such number of shares of the Corporation s Common Stock, par value $0.001 per share (the **Common Stock**) (rounded down to the nearest whole share with any fractional shares being issued in cash in an amount equal to the Market Price (as defined in Section 4.2 below) of such fractional share of Common Stock) determined by dividing the amount of the total accrued but unpaid dividends then outstanding on such holder s shares of Series D Preferred Stock by the Market Price then in effect (which for this purpose may not be less than $1.46 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); provided, however, that (i) the Corporation may not pay such dividends in shares of Common Stock on or prior to ~~December 31~~October 1, ~~2014~~2013, (ii) the Corporation may not issue shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such issuance, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the **Exchange Act**), to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation following such issuance, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such issuance, unless, in either case, the Corporation obtains the requisite stockholder approval under NASDAQ Marketplace Rule 5635(b) (the **Issuance Limitation**), in which case, the Issuance Limitation under this clause (ii) shall no longer apply to the payment of dividends hereunder and (iii) if clause (ii) shall in fact limit the issuance of any shares of Common Stock in payment of a given dividend, then the Corporation s election to pay such dividend in shares of Common Stock shall be ineffective to the extent of such limitation and such dividend shall instead thereupon be paid, at the Corporation s election, (x) in cash by the Corporation out of legally available funds or (y) through the issuance of a number of shares of the Corporation s Series F Convertible Preferred Stock, par value $0.01 per share (the **Series F Preferred Stock**) equal to one-twentieth (1/20th) of the number of shares of Common Stock that the Corporation could have issued pursuant to this Section 1.1.2 with respect to such Series D Preferred Dividends but for the limitations set forth in clause (a) and clause (b) of this Section 1.1.2.

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1.1.3 Any election by the Corporation to pay Series D Preferred Dividends in cash or in shares of Common Stock or Series F Preferred Stock shall be made uniformly with respect to all outstanding shares of Series D Preferred Stock for a given dividend period.

1.1.4 For purposes of this Section 1.1 the aggregate number of shares of Common Stock or voting securities beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act, shall include the shares of Common Stock to be issued as part of such dividend payment, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

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APPENDIX E

PART (E)

RESOLVED, that Section 2.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.1 Payments to Holders of Series D Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series D Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock, Series A Convertible Preferred Stock or any other class of capital stock of the Corporation ranking junior to the Series D Preferred Stock as to liquidation, by reason of their ownership thereof, an amount per share equal to ~~the greater of (i) the Series D Original Issue Price, plus any dividends accrued or declared but unpaid thereon, or (ii)~~ such amount ~~per share~~ as would have been payable with respect to such share had all shares of Series D Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up, disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.1. If upon any such liquidation, dissolution or winding up of the Corporation, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series D Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series D Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

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RESOLVED, that Section 4.1.2 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

4.1.2 Termination of Conversion Rights. In the event of a notice of redemption of any shares of Series D Preferred Stock pursuant to Section 5 ~~or 6~~, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a liquidation, dissolution or winding up of the Corporation or a Sale of the Corporation (as defined in Section 6.2 below), the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Series D Preferred Stock.

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RESOLVED, that Section 6 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

6. ~~Fundamental Change Redemption~~Sale of the Corporation.

6.1 In the event of a Sale of the Corporation (as defined below) after payment shall be made to the holders of Series A Convertible Preferred Stock and any other class of capital stock of the Corporation ranking senior to the *Series D Preferred Stock* upon a Sale of the Corporation, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of *the shares of Series D Preferred Stock*, Series E *Preferred Stock* and Common Stock pro rata based on the *number of shares* held by each such holder, treating for this purpose all such securities as if they had been

converted to Common Stock pursuant to the terms of the Certificate of Incorporation immediately prior to such Sale of the Corporation disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.1.

6.2 The term **Sale of the Corporation** shall mean each of the following events: (a) a merger or consolidation in which (i) the Corporation is a constituent party or (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation (except in the case of clause (i) and (ii), any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (y) the surviving or resulting corporation or (z) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or (b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger or otherwise) of one or more subsidiaries of the Corporation if *substantially all of the assets of the* Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation. For the purposes of clarity, a Sale of the Corporation shall not be deemed to be a liquidation, dissolution or winding up of the Corporation for the purposes of this Section 6.

~~6.1 Fundamental Change. Upon the occurrence of a Fundamental Change, each holder of shares of Series D Preferred Stock may, at its sole option, require the Corporation to purchase all or a portion of its shares of Series D Preferred Stock (the "**Fundamental Change Redemption**") at a price equal to Redemption Price. A "Fundamental Change" shall mean any of the following events:~~

~~(a) any "person" or "group" (each term as defined in the Exchange Act) that is not an affiliate of any holder of shares of Series D Preferred Stock becoming the "beneficial owner" (as defined in the Exchange Act) of voting securities of the Corporation, representing 66 2/3% or more of the outstanding voting securities of the Corporation (treating all securities convertible or exchangeable into or exercisable for shares of Common Stock as having been fully converted, exchanged and exercised, without regard to any exercise, conversion or exchange limitations therein) other than in connection with a transaction described in clause (d) below;~~

~~(b) the recapitalization or reclassification of the Common Stock of the Corporation;~~

~~(c) a sale of all or *substantially all of the assets of the* Corporation's assets to a person that is not an affiliate of any holder of shares of Series D Preferred Stock; or~~

~~(d) a merger, consolidation, business combination or similar transaction the result of which a "person" or "group" (each as defined in the Exchange Act) that is not an affiliate of any holder of shares of Series D Preferred Stock owns voting securities representing 66 2/3% or more of the outstanding voting securities of the surviving entity upon completion of such transaction.~~

~~6.2 Exercise of Fundamental Change Redemption Option. The Company shall send a written notice (the "**Fundamental Change Notice**") to each holder of shares of *Series D Preferred Stock* of (i) the occurrence of a Fundamental Change described in Subsection 6.1(a) above, within 10 days of the Corporation's becoming aware of the occurrence of such Fundamental Change, and (ii) a Fundamental Change described in Subsection 6.1(b) (d) above, in accordance with Section 4.10. The Fundamental Change Notice shall describe the Fundamental Change and state that each holder of shares of Series D Preferred Stock has the right to require a Fundamental Change Redemption. In order to require a Fundamental Change Redemption, a holder of Series D Preferred~~

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Stock must deliver written notice to the Corporation requesting the Fundamental Change Redemption within five days after the date of the Fundamental Change Notice and stating the number of shares of Series D Preferred Stock to be redeemed. Unless prohibited by Delaware law governing distributions to stockholders, the Corporation shall redeem *the shares of Series D Preferred Stock* requested to be redeemed at a price equal to the Redemption Price and on a date to be fixed by the Corporation which shall not be more than 30 days from the date of the last timely delivered Fundamental Change Redemption request. If, on the date of the Fundamental Change Redemption, Delaware law governing distributions to stockholders prevents the Corporation from redeeming all shares of Series D *Preferred Stock* to be redeemed, the Corporation shall ratably redeem the maximum *number of shares* that it may redeem consistent with such law, and shall redeem the remaining shares as soon as it may lawfully do so under such law.

6.3 Redemption Notice. Following receipt of a timely request for a Fundamental Change Redemption by a holder of Series D Preferred Stock, the Corporation shall send written notice of the mandatory redemption to the holder stating:

(a) the date fixed for the Fundamental Redemption (the "**Fundamental Redemption Date**") and the Redemption Price;

(b) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Subsection 4.1); and

(c) that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Series D Preferred Stock to be redeemed.

6.4 Surrender of Certificates; Payment. On or before the Fundamental Redemption Date, each holder of shares of Series D Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the notice from the Corporation, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Series D Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Series D Preferred Stock shall promptly be issued to such holder.

6.5 Rights Subsequent to Redemption. If on the Fundamental Redemption Date the Redemption Price payable upon redemption of the shares of the Series D Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that the certificates evidencing any of the shares of Series D Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Series D Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Fundamental Redemption Date terminate, except only the right to the holders to receive the Redemption Price without interest upon surrender of their certificate or certificates therefor.

6.6 Fundamental Change and Dividends. Upon the occurrence of a Fundamental Change as described in Subsection 6.1(c) (d), the Company's obligation to pay Series D Preferred Dividends shall terminate.

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APPENDIX F

PART (A)

RESOLVED, that Section 1.1 of the Certificate of Designations be deleted in its entirety and the following new paragraph be inserted in lieu thereof:

~~1.~~ 1.1 Series E Preferred Dividends.

~~1.1~~1.1.1 Each holder of Series E Preferred Stock shall be entitled to receive with respect to each share of Series E Preferred Stock then outstanding and held by such holder of Series E Preferred Stock, dividends, commencing from the date of issuance of such share of Series E Preferred Stock, at the Initial Dividend Rate (as defined below) per annum (on the basis of a 360 day year) of the Series E Original Issue Price (as defined below) (the **Series E Preferred Dividends**); provided, however, that subject to and effective upon the filing with the Delaware Secretary of State of the amendment to the Certificate of Designations, Preferences and Rights of Series D Preferred Stock (the **Series D Certificate of Designations**, with the amendment thereto being referred to as the **Amendment to Series D Certificate of Designations**) as described in Section 5.11(B) of that certain Convertible Preferred Stock and Warrant Purchase Agreement, dated November 9, 2012, between the Corporation and the purchasers of the Series E Preferred Stock therein (the **Series E Purchase Agreement**), the dividend rate provided for in this Section 1.1 shall be increased from the Initial Dividend Rate to the rate of eight percent (8%) per annum (on the basis of a 360 day year) of the Series E Original Issue Price. The Series E Preferred Dividends shall be cumulative, whether or not earned or declared, shall be paid quarterly in arrears on the last day of March, June, September and December (a **Quarterly Dividend Payment Date**) in each year that Series E Preferred Stock is outstanding, with the first Quarterly Dividend Payment Date being March 31, 2013, and shall be prorated for periods shorter than one quarter. Notwithstanding the foregoing, if, as of any Quarterly Dividend Payment Date at which the dividend rate is the Initial Dividend Rate, there are no shares of the Corporation s Series D Convertible Preferred Stock outstanding, then the dividend payable on such Quarterly Dividend Payment Date shall be calculated and paid at a rate of eight percent (8%) per annum (on the basis of a 360 day year) of the Series E Original Issue Price. In the event that the Amendment to Series D Certificate of Designations is filed with the Delaware Secretary of State and the dividend rate with respect to the Series E Preferred Dividends is increased pursuant to this Section ~~1.1~~1.1.1, the Series E Preferred Dividends paid on the first Quarterly Dividend Payment Date after such filing and increase shall be paid at the increased rate. In the event that the Amendment to Series D Certificate of Designations is submitted to the stockholders of the Corporation as contemplated by Section 5.11 of the Series E Purchase Agreement and the Amendment to Series D Certificate of Designations is not approved, then the holders of the Series E Preferred Stock shall no longer be entitled to any Series E Preferred Dividends under this Section ~~1.1~~1.1.1 and the Corporation shall have no further obligation to pay the Series E Preferred Dividends under this Section ~~1.1~~1.1.1; provided, however, the Corporation shall not submit the Amendment to the Series D Certificate of Designations to the stockholders if there are no shares of Series D Preferred Stock then outstanding. The rights of a holder of Series E Preferred Stock to Series E Preferred Dividends shall rank senior to the rights of the Corporation s Series A Convertible Preferred Stock and Series D Convertible Preferred Stock as to dividends. The ~~Series E Preferred Dividends shall be paid to each holder of Series E Preferred Stock in cash out of legally available funds. The~~ term **Initial Dividend Rate** shall mean four and six tenths percent (4.6%) or such other percentage approved by the Corporation and by the holders of at least a majority of then outstanding shares of Series E Preferred Stock, with such approval given in writing or by vote at a meeting, consenting or voting (as the case may be) as a separate class.

1.1.2 The Series E Preferred Dividends shall be paid to each holder of Series E Preferred Stock in cash out of legally available funds or, at the Corporation s election, through the issuance of such number of shares of Common Stock (as defined in Section 1.3 below) (rounded down to the nearest whole share with any fractional shares being issued in cash in an amount equal to the Market Price (as defined in Section 4.2 below) of such fractional share of Common Stock) determined by dividing the amount of the total accrued but unpaid dividends

then outstanding on such holder s shares of Series E Preferred Stock by the Market Price then in effect (which for this purpose may not be less than $0.70 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); provided, however, that (i) the Corporation may not pay such dividends in shares of Common Stock on or prior to October 1, 2013, (ii) the Corporation may not issue shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such issuance, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act (as defined in Section 4.1.2), to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation following such issuance, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such issuance, unless and until, in either case of clause (a) and clause (b) of this Section 1.1A, the stockholders of the Corporation approve the Nasdaq Proposal (as defined in Section 3.1 below), in which case, the 19.99% limitation under clause (a) and (b) of this Section 1.1A shall be increased, with respect to any holder of Series E Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 1.1A, and (iii) if clause (ii) shall in fact limit the issuance of any shares of Common Stock in payment of a given dividend, then the Corporation s election to pay such dividend in shares of Common Stock shall be ineffective to the extent of such limitation and such dividend shall instead thereupon be paid, at the Corporation s election, (x) in cash by the Corporation out of legally available funds or (y) through the issuance of a number of shares of the Corporation s Series F Convertible Preferred Stock, par value $0.01 per share (the **Series F Preferred Stock**) equal to one-twentieth (1/20th) of the number of shares of Common Stock that the Corporation could have issued pursuant to this Section 1.1.2 with respect to such Series E Preferred Dividends but for the limitations set forth in clause (a) and clause (b) of this Section 1.1.2.

1.1.3 Any election by the Corporation to pay Series E Preferred Dividends in cash or shares of Common Stock and/or Series F Preferred Stock shall be made uniformly with respect to all outstanding shares of Series E Preferred Stock for a given dividend period.

1.1.4 For purposes of this Section 1.1, the aggregate number of shares of Common Stock or voting securities beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act, shall include the shares of Common Stock to be issued as part of such dividend payment, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

***

RESOLVED, that Section 2.1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.1.1 In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series E Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to

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the holders of Common Stock, Series A Convertible Preferred Stock, Series D Convertible Preferred Stock or any other class of capital stock of the Corporation ranking junior to the Series E Preferred Stock as to liquidation, by reason of their ownership thereof, an amount per share equal to ~~the greater of (i) the Series E Original Issue Price, plus any dividends accrued or declared but unpaid thereon, and (ii)~~ such amount ~~per share~~ as would have been payable with respect to such share had all shares of Series E Preferred Stock been converted into Common Stock pursuant to Subsection 4 immediately prior to such liquidation, dissolution or winding up disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.2.

***

RESOLVED, that Section 2.3.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.3.1 In the event of a Sale of the Corporation (as defined below) after payment shall be made to the holders of Series ~~A Convertible Preferre~~d ~~Stock, Series D~~ Convertible Preferred Stock and any other class of capital stock of the Corporation ranking senior to the Series E Preferred Stock upon a Sale of the Corporation, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series E Preferred Stock, Series D Preferred Stock and Common Stock pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of the Certificate of Incorporation immediately prior to such Sale of the Corporation disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.2.

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APPENDIX F

PART (B)

RESOLVED, that Section 1.1 of the Certificate of Designations be deleted in its entirety and the following new paragraph be inserted in lieu thereof:

~~1.~~ 1.1 Series E Preferred Dividends.

~~1.1~~1.1.1 Each holder of Series E Preferred Stock shall be entitled to receive with respect to each share of Series E Preferred Stock then outstanding and held by such holder of Series E Preferred Stock, dividends, commencing from the date of issuance of such share of Series E Preferred Stock, at the Initial Dividend Rate (as defined below) per annum (on the basis of a 360 day year) of the Series E Original Issue Price (as defined below) (the **Series E Preferred Dividends**); provided, however, that subject to and effective upon the filing with the Delaware Secretary of State of the amendment to the Certificate of Designations, Preferences and Rights of Series D Preferred Stock (the **Series D Certificate of Designations**, with the amendment thereto being referred to as the **Amendment to Series D Certificate of Designations**) as described in Section 5.11(B) of that certain Convertible Preferred Stock and Warrant Purchase Agreement, dated November 9, 2012, between the Corporation and the purchasers of the Series E Preferred Stock therein (the **Series E Purchase Agreement**), the dividend rate provided for in this Section 1.1 shall be increased from the Initial Dividend Rate to the rate of eight percent (8%) per annum (on the basis of a 360 day year) of the Series E Original Issue Price. The Series E Preferred Dividends shall be cumulative, whether or not earned or declared, shall be paid quarterly in arrears on the last day of March, June, September and December (a **Quarterly Dividend Payment Date**) in each year that Series E Preferred Stock is outstanding, with the first Quarterly Dividend Payment Date being March 31, 2013, and shall be prorated for periods shorter than one quarter. Notwithstanding the foregoing, if, as of any Quarterly Dividend Payment Date at which the dividend rate is the Initial Dividend Rate, there are no shares of the Corporation s Series D Convertible Preferred Stock outstanding, then the dividend payable on such Quarterly Dividend Payment Date shall be calculated and paid at a rate of eight percent (8%) per annum (on the basis of a 360 day year) of the Series E Original Issue Price. In the event that the Amendment to Series D Certificate of Designations is filed with the Delaware Secretary of State and the dividend rate with respect to the Series E Preferred Dividends is increased pursuant to this Section ~~1.1~~1.1.1, the Series E Preferred Dividends paid on the first Quarterly Dividend Payment Date after such filing and increase shall be paid at the increased rate. In the event that the Amendment to Series D Certificate of Designations is submitted to the stockholders of the Corporation as contemplated by Section 5.11 of the Series E Purchase Agreement and the Amendment to Series D Certificate of Designations is not approved, then the holders of the Series E Preferred Stock shall no longer be entitled to any Series E Preferred Dividends under this Section ~~1.1~~1.1.1 and the Corporation shall have no further obligation to pay the Series E Preferred Dividends under this Section ~~1.1~~1.1.1; provided, however, the Corporation shall not submit the Amendment to the Series D Certificate of Designations to the stockholders if there are no shares of Series D Preferred Stock then outstanding. The rights of a holder of Series E Preferred Stock to Series E Preferred Dividends shall rank senior to the rights of the Corporation s Series A Convertible Preferred Stock and Series D Convertible Preferred Stock as to dividends. The ~~Series E Preferred Dividends shall be paid to each holder of Series E Preferred Stock in cash out of legally available funds. The~~ term **Initial Dividend Rate** shall mean four and six tenths percent (4.6%) or such other percentage approved by the Corporation and by the holders of at least a majority of then outstanding shares of Series E Preferred Stock, with such approval given in writing or by vote at a meeting, consenting or voting (as the case may be) as a separate class.

1.1.2 The Series E Preferred Dividends shall be paid to each holder of Series E Preferred Stock in cash out of legally available funds or, at the Corporation s election, through the issuance of such number of shares of Common Stock (as defined in Section 1.3 below) (rounded down to the nearest whole share with any fractional

shares being issued in cash in an amount equal to the Market Price (as defined in Section 4.2 below) of such fractional share of Common Stock) determined by dividing the amount of the total accrued but unpaid dividends then outstanding on such holder s shares of Series E Preferred Stock by the Market Price then in effect (which for this purpose may not be less than $0.70 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); provided, however, that (i) the Corporation may not pay such dividends in shares of Common Stock on or prior to October 1, 2013, (ii) the Corporation may not issue shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such issuance, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act (as defined in Section 4.1.2), to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation following such issuance, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such issuance, unless and until, in either case of clause (a) and clause (b) of this Section 1.1A, the stockholders of the Corporation approve the Nasdaq Proposal (as defined in Section 3.1 below), in which case, the 19.99% limitation under clause (a) and (b) of this Section 1.1A shall be increased, with respect to any holder of Series E Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 1.1A, and (iii) if clause (ii) shall in fact limit the issuance of any shares of Common Stock in payment of a given dividend, then the Corporation s election to pay such dividend in shares of Common Stock shall be ineffective to the extent of such limitation and such dividend shall instead thereupon be paid, at the Corporation s election, (x) in cash by the Corporation out of legally available funds or (y) through the issuance of a number of shares of the Corporation s Series F Convertible Preferred Stock, par value $0.01 per share (the **Series F Preferred Stock**) equal to one-twentieth (1/20th) of the number of shares of Common Stock that the Corporation could have issued pursuant to this Section 1.1.2 with respect to such Series E Preferred Dividends but for the limitations set forth in clause (a) and clause (b) of this Section 1.1.2.

1.1.3 Any election by the Corporation to pay Series E Preferred Dividends in cash or shares of Common Stock and/or Series F Preferred Stock shall be made uniformly with respect to all outstanding shares of Series E Preferred Stock for a given dividend period.

1.1.4 For purposes of this Section 1.1, the aggregate number of shares of Common Stock or voting securities beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act, shall include the shares of Common Stock to be issued as part of such dividend payment, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

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APPENDIX F

PART (C)

RESOLVED, that Section 2.1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.1.1 In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series E Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock, Series A Convertible Preferred Stock, Series D Convertible Preferred Stock or any other class of capital stock of the Corporation ranking junior to the Series E Preferred Stock as to liquidation, by reason of their ownership thereof, an amount per share equal to ~~the greater of (i) the Series E Original Issue Price, plus any dividends accrued or declared but unpaid thereon, and (ii)~~ such amount ~~per share~~ as would have been payable with respect to such share had all shares of Series E Preferred Stock been converted into Common Stock pursuant to Subsection 4 immediately prior to such liquidation, dissolution or winding up disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.2.

***

RESOLVED, that Section 2.3.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.3.1 In the event of a Sale of the Corporation (as defined below) after payment shall be made to the holders of Series ~~A Convertible Preferre~~d ~~Stock, Series D~~ Convertible Preferred Stock and any other class of capital stock of the Corporation ranking senior to the Series E Preferred Stock upon a Sale of the Corporation, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series E Preferred Stock, Series D Preferred Stock and Common Stock pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of the Certificate of Incorporation immediately prior to such Sale of the Corporation disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.2.

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Using a **black ink** pen, mark your votes with an **X** as shown in this example. Please do not write outside the designated areas.

X

Electronic Voting Instructions

Available 24 hours a day, 7 days a week!

Instead of mailing your proxy, you may choose one of the voting methods outlined below to vote your proxy.

VALIDATION DETAILS ARE LOCATED BELOW IN THE TITLE BAR.

Proxies submitted by the Internet or telephone must be received by 11:59 p.m., Eastern Time, on July 25, 2013.

Vote by Internet
Go to **www.investorvote.com/IDRA**
Or scan the QR code with your smartphone
Follow the steps outlined on the secure website

Vote by telephone
Call toll free 1-800-652-VOTE (8683) within the USA, US territories & Canada on a touch tone telephone
Follow the instructions provided by the recorded message

q **IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE.** q

A Proposals **A VOTE FOR THE DIRECTOR NOMINEES AND FOR PROPOSALS NUMBERED 1, 2, 3, 4, 5, 7, 8 AND 9 IS RECOMMENDED BY THE BOARD OF DIRECTORS.**

	For	Against	Abstain		For	Against	Abstain		For	Against	Abstain		For	Against	Abstain
1a.	••	••	••	1b.	••	••	••	1c.	••	••	••	2.	••	••	••
3.				4.				5.							

¨	¨	¨	¨	¨	¨	¨	¨	¨

6. Election of Directors

	For All	Withhold All	For All Except		For All	Withhold All	For All Except		For All	Withhold All	For All Except
01.	¨	¨	¨	02.	¨	¨	¨	03.	¨	¨	¨

INSTRUCTIONS: To withhold authority to vote for any individual nominee(s), mark For All Except and write the name of the nominee(s) on the line below.

_____

	For	Against	Abstain		For	Against	Abstain		For	Against	Abstain		For	Against	Abstain
7.	¨	¨	¨	8a.	¨	¨	¨	8b.	¨	¨	¨	8c.	¨	¨	¨
8d.	¨	¨	¨	9a.	¨	¨	¨	9b.	¨	¨	¨				

B Authorized Signatures This section must be completed for your vote to be counted. Date and Sign Below

Please sign this proxy exactly as your name appears hereon. Joint Owners should each sign personally. Trustees and other fiduciaries should indicate the capacity in which they sign. If a corporation or partnership, this signature should be that of an authorized officer who should state his or her title.

Date (mm/dd/yyyy) Please print date below. Signature 1 Please keep signature within the box. Signature 2 Please keep signature within the box.

/ /

IF VOTING BY MAIL, YOU MUST COMPLETE SECTIONS A - C ON BOTH SIDES OF THIS CARD.

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Proposals

1a. Approval of an amendment to our Restated Certificate of Incorporation to declassify our board of directors
1b. Approval of an amendment to our Restated Certificate of Incorporation to provide that our stockholders may remove directors with or without cause following declassification of our board of directors
1c. Approval of an amendment to our Restated Certificate of Incorporation to eliminate the supermajority voting requirement for amending or repealing Article ELEVENTH of our Restated Certificate of Incorporation
2. Approval of an amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of our common stock from 140,000,000 shares to 280,000,000 shares
3. Approval, by non-binding vote, of executive compensation
4. Approval of the Idera Pharmaceuticals, Inc. 2013 Stock Incentive Plan
5. Ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2013
6. Election of Directors
Nominees:
01 Dr. Agrawal

02 Dr. Slater

03 Mr. El Zein

7. Approval of issuances and sales by us to certain affiliates of Pillar Invest Corporation (including our prior issuances and sales of our securities to such affiliates in November 2011 and November 2012) of a number of shares of our common stock (including securities convertible into or exercisable for shares of our common stock) that is greater than 19.99% of the total number of issued and outstanding shares of common stock and of the outstanding voting power of our securities after such issuance and sale in accordance with Nasdaq Listing Rule 5635(b);
8a. Approval of amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series D Preferred Stock to increase the beneficial ownership limitation applicable to our Series D preferred stock from 19.99% to 35%, as described in Proposal 8(a)
8b. Approval of amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series D Preferred Stock to modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the holders of our Series D preferred stock, as described in Proposal 8(b)
8c. Approval of amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series D Preferred Stock to modify the dividend provisions of our Series D preferred stock, as described in Proposal 8(c)
8d. Approval of amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series D Preferred Stock to modify the provisions relating to redemption, liquidation and rights to distributions in the event of a sale of our company, as described in Proposal 8(d)
9a. Approval of amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series E Preferred Stock to modify the dividend provisions of our Series E preferred stock, as described in Proposal 9(a)
9b. Approval of amendments to our Restated Certificate of Incorporation amending the Certificate of Designations, Preferences and Rights of Series E Preferred Stock to modify the liquidation provisions of the Series E preferred stock, as described in Proposal 9(b)

In their discretion, the proxies are authorized to vote upon such other business as may properly come before the 2013 annual meeting or any adjournment thereof.

q **IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE.** q

Proxy IDERA PHARMACEUTICALS, INC. +

PROXY SOLICITED BY THE BOARD OF DIRECTORS

Annual Meeting of Stockholders July 26, 2013

Those signing on the reverse side, revoking all prior proxies, hereby appoint(s) Dr. Sudhir Agrawal and Mr. Louis J. Arcudi, III or each or any of them with full power of substitution, as proxies for those signing on the reverse side to act and vote all shares of stock of Idera Pharmaceuticals, Inc. which the undersigned would be entitled to vote if personally present at the 2013 Annual Meeting of Stockholders of Idera Pharmaceuticals, Inc. and at any adjournments thereof as indicated upon all matters referred to on the reverse side and described in the Proxy Statement for the Meeting, and, in their discretion, upon any other matters which may properly come before the Meeting. Attendance of the undersigned at the Meeting or at any adjournment thereof will not be deemed to revoke this proxy unless those signing on the reverse side shall revoke this proxy in writing.

THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED IN THE MANNER DIRECTED BY THE UNDERSIGNED STOCKHOLDER(S). IF NO INDICATION IS MADE, THE PROXIES SHALL VOTE FOR THE DIRECTOR NOMINEES AND FOR PROPOSALS NUMBERED 1, 2, 3, 4, 5, 7, 8 AND 9.

PLEASE VOTE, DATE AND SIGN ON OTHER SIDE AND RETURN PROMPTLY IN ENCLOSED ENVELOPE.

YOUR VOTE IS IMPORTANT. PLEASE VOTE TODAY.

C Non-Voting Items

Change of Address Please print new address below.

Comments Please print your comments below.

¢ **IF VOTING BY MAIL, YOU MUST COMPLETE SECTIONS A - C ON BOTH SIDES OF THIS CARD.** +

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the

Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): April 30, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

167 Sidney Street

Cambridge, Massachusetts **02139**
(Address of principal executive offices) **(Zip Code)**
Registrant s telephone number, including area code: (617) 679-5500

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

¨ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

¨ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

¨ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 1.01 Entry Into a Material Definitive Agreement

Pillar Agreement

On April 30, 2013, Idera Pharmaceuticals, Inc. (the Company) entered into an agreement (the Agreement) with Pillar Pharmaceuticals I, L.P. (Pillar I), Pillar Pharmaceuticals II, L.P., and an entity affiliated with Pillar I and Pillar II (together with Pillar I and Pillar II, the Pillar Entities).

Under the Agreement, Pillar I, in its capacity as holder of 100% of the Company s Series D Convertible Preferred Stock (the Series D Preferred Stock), has irrevocably agreed to waive the right of the holders of the Series D Preferred Stock under Section 2.1 of the Certificate of Designations, Preferences and Rights of Series D Preferred Stock (the Series D Certificate of Designations) to receive, in the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company (a Liquidation) an amount per share of Series D Preferred Stock equal to the original issue price of such share of Series D Preferred Stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D Preferred Stock been converted into shares of the Company s Common Stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series D Preferred Stock will receive an amount per share of Series D Preferred Stock equal to the amount that would be payable with respect to such share had all shares of Series D Preferred Stock been converted into shares of the Company s Common Stock immediately prior to such Liquidation.

In addition, under the Agreement, Pillar II and the entity affiliated with Pillar II, together the holders of 100% of the Company s Series E Convertible Preferred Stock (the Series E Preferred Stock), have irrevocably agreed to waive the right of the holders of the Series E Preferred Stock under Section 2.1.1 of the Certificate of Designations, Preferences and Rights of Series E Preferred Stock (the Series E Certificate of Designations) to receive, in the event of a Liquidation, an amount per share of Series E Preferred Stock equal to the original issue price of such share of Series E Preferred Stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E Preferred Stock been converted into shares of the Company s Common Stock immediately prior to such Liquidation, and that upon a Liquidation the holders of the Series E Preferred Stock will receive under Section 2.1 of the Series E Certificate of Designations an amount per share of Series E Preferred Stock equal to the amount that would be payable with respect to such share had all shares of Series E Preferred Stock been converted into shares of the Company s Common Stock immediately prior to such Liquidation.

Under the Agreement, the Company has agreed to seek approval from its stockholders at its 2013 annual meeting of stockholders of amendments to the Series D Certificate of Designations and Series E Certificate of Designations to effect these changes to the liquidation provisions of the Series D Preferred Stock and Series E Preferred Stock, and each Pillar Entity has agreed:

- to vote, and to cause its affiliates to vote, all shares of the Company s voting stock held by such Pillar Entity or its affiliates, and over which such Pillar Entity or its affiliates has the power to vote, in favor of such amendments; and

- not to, and to cause its affiliates not to, sell or transfer any shares of Common Stock, Series D Preferred Stock or Series E Preferred Stock held by such Pillar Entity or its affiliates to any person, entity or group unless such proposed transferee agrees in a written instrument executed by such transferee, the applicable Pillar Entity and the Company to take and hold such securities subject to, among other things, the Agreement and to be bound by the terms of the Agreement, including the waiver of rights, voting agreements and restrictions on transfer set forth therein.

In consideration of the agreements of the Pillar Entities under the Agreement and the delivery of the waivers by the Pillar Entities, and for no additional cash consideration, the Company has agreed to issue to the Pillar Entities warrants (the Pillar Warrants) to purchase up to an aggregate of 1,000,000 shares of the Company s Common Stock (with each Pillar Entity receiving its pro rata portion thereof). The Pillar Warrants will have an exercise price per share equal to the greater of (a) $0.79 and (b) to the extent that warrants to purchase shares of the

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Company s Common Stock are issued in a qualified financing, the per share exercise price of the warrants issued in such qualified financing, which would include the exercise price of any warrants issued in this offering to the extent that this offering is deemed to be a qualified financing.

The Agreement, including the Company s obligations to issue the Pillar Warrants, will become effective upon the consummation of a qualified financing. The Agreement will terminate in the event that a qualified financing is not consummated by October 1, 2013. Under the terms of the Agreement, a qualified financing is defined as the issuance and sale of the Company s equity securities from and after the date of the Agreement in one or more closings resulting in aggregate gross proceeds to the Company of at least $12.5 million.

The Agreement is attached hereto as Exhibit 10.1 and incorporated herein by reference. The form of Warrant to be issued to the Pillar Entities is included as Exhibit A to the Agreement attached hereto as Exhibit 10.1 and is incorporated herein by reference. The foregoing descriptions of the Agreement and the Pillar Warrants do not purport to be complete and is qualified in its entirety by reference to such exhibits.

Registration Rights Agreement

In addition, upon the Effective Date, the Company will enter into a Registration Rights Agreement with the Pillar Entities (the Registration Rights Agreement). Pursuant to the Registration Rights Agreement, the Company will agree to file a registration statement with the Securities and Exchange Commission regarding the resale of the shares of Common Stock issuable upon exercise of the Pillar Warrants. The Company will be subject to specified cash penalties if it fails to file and maintain an effective registration statement. Such penalties are limited to a cumulative maximum penalty equal to 10% of the aggregate exercise price of the Pillar Warrants then held by the Pillar Entities which are not able to be sold pursuant to a registration statement. The Company will be required to use its reasonable best efforts to maintain the registration statement s effectiveness until no shares of Common Stock issued or issuable upon exercise of the Pillar Warrants remain outstanding or issuable, as applicable.

The Form of Registration Rights Agreement is included as Exhibit B to the Agreement attached hereto as Exhibit 10.1 and is incorporated herein by reference. The foregoing description of the Registration Rights Agreement does not purport to be complete and is qualified in its entirety by reference to such exhibit.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

See Exhibit Index attached hereto.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: May 2, 2013

By: /s/ Louis J. Arcudi, III
Louis J. Arcudi, III

Chief Financial Officer,

Treasurer and Secretary

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EXHIBIT INDEX

Exhibit No.	Description
10.1	Agreement, dated April 30, 2013, among the Company and the Pillar Entities (incorporated by reference to Exhibit 10.50 to the Company s Registration Statement on Form S-1, file number 333-187155, filed on May 1, 2013)

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d)

of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): May 7, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

167 Sidney Street

Cambridge, Massachusetts **02139**
(Address of principal executive offices) **(Zip Code)**
Registrant s telephone number, including area code: (617) 679-5500

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

¨ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

¨ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

¨ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 8.01. Other Events.

Idera Pharmaceuticals, Inc. (the Company) announced today that, having completed an underwritten public offering of its common stock and warrants in which it raised $16.5 million in gross proceeds before deducting underwriting discounts and commissions and other estimated offering expenses, the Company believes that it now has stockholders equity in excess of the minimum $2.5 million stockholders equity threshold required for continued listing on The NASDAQ Capital Market.

As previously disclosed, on February 5, 2013, the Company received a determination from the NASDAQ Listing Qualifications Hearings Panel (the Panel) indicating that the Panel had granted the Company s request to transfer its listing from The NASDAQ Global Market to The NASDAQ Capital Market and to continue the listing of its common stock provided that the Company satisfy the minimum $2.5 million stockholders equity requirement on or before March 31, 2013 and have otherwise met the continued listing requirements of The NASDAQ Capital Market. On March 5, 2013, the Panel extended the date by which the Company was required to satisfy that requirement to May 22, 2013. The Company is also required to provide the Panel with additional information regarding its projected burn-rate and stockholders equity through May 31, 2014.

The Company believes that it now satisfies all requirements for continued listing on The NASDAQ Capital Market as required by the Panel. However, the Company must await the Panel s formal determination regarding the continued listing of its common stock on The NASDAQ Capital Market. The Company expects to receive the Panel s final determination within the next several days.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: May 7, 2013

By: /s/ Louis J. Arcudi, III
Louis J. Arcudi, III
Chief Financial Officer, Treasurer and Secretary

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d)

of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): May 8, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

167 Sidney Street

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(Former Name or Former Address, if Changed Since Last Report)

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¨ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

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¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 8.01. Other Events.

Idera Pharmaceuticals, Inc. (the Company) today announced that it has been formally notified by The NASDAQ Stock Market LLC that the Company has evidenced compliance with the minimum stockholders equity requirement for continued listing on The NASDAQ Capital Market, as required by the decision of the NASDAQ Listing Qualifications Panel dated March 5, 2013. Accordingly, the Company has regained compliance with the minimum stockholders equity requirement for continued listing pursuant to NASDAQ Listing Rule 5450(b)(2) and the matter has been closed.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: May 9, 2013

By: /s/ Louis J. Arcudi, III
Louis J. Arcudi, III

Chief Financial Officer,

Treasurer and Secretary

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the

Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): May 24, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

167 Sidney Street	
Cambridge, Massachusetts	**02139**
(Address of principal executive offices)	**(Zip Code)**

Registrant s telephone number, including area code: (617) 679-5500

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

¨ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

¨ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

¨ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 8.01. Other Events.

As previously disclosed on May 7, 2013, Idera Pharmaceuticals, Inc. (the Company) completed an underwritten public offering of its common stock and warrants to purchase shares of its common stock in which it raised $16.5 million in gross proceeds, and, as a result of the offering, the Company believes it now has stockholders equity in excess of both the $2.5 million stockholders equity requirement for continued listing, as well as the $5 million stockholders equity requirement for initial listing, on The NASDAQ Capital Market.

As previously disclosed on November 26, 2012, while the Company was listed on The NASDAQ Global Market, the Company received notice from NASDAQ that the bid price of its common stock had not met the applicable minimum bid price requirement of $1.00 per share and, pursuant to NASDAQ Listing Rule 5810(c)(3)(A), the Company was provided 180 calendar days within which to evidence compliance with the bid price requirement. The Company s listing was subsequently transferred to The NASDAQ Capital Market effective February 7, 2013. The rules applicable to companies listed on The NASDAQ Capital Market provide for a second 180-day period to evidence compliance with the $1.00 bid price requirement so long as the company satisfies all requirements for initial listing on The NASDAQ Capital Market, including the $5 million stockholders equity requirement, and the continued listing requirement for market value of publicly held shares upon the expiration of the first compliance period, which in the Company s case is May 28, 2013. The Company expects to meet those criteria as of May 28, 2013.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: May 24, 2013

By: /s/ Louis J. Arcudi, III
Louis J. Arcudi, III

Chief Financial Officer,

Treasurer and Secretary

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the

Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): May 29, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction	**(Commission File Number)**	**(IRS Employer**

of Incorporation) **Identification No.)**

167 Sidney Street

Cambridge, Massachusetts **02139**
(Address of principal executive offices) **(Zip Code)**
Registrant s telephone number, including area code: (617) 679-5500

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

¨ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

¨ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

¨ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 3.01 Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing.

On May 29, 2013, Idera Pharmaceuticals, Inc. (the Company) received a letter from the Listing Qualifications Staff of The NASDAQ Stock Market LLC (NASDAQ) indicating that although the Company did not evidence compliance with the minimum $1.00 bid price requirement (the Minimum Bid Price Requirement), as set forth in NASDAQ Listing Rule 5550(a)(2), within the initial 180 day compliance period ended May 28, 2013, the Company is eligible for an additional 180 calendar day period, or until November 25, 2013, to evidence compliance with the Minimum Bid Price Requirement.

As previously disclosed, on November 26, 2012, while the Company was listed on The NASDAQ Global Market, the Company received a letter from NASDAQ indicating that based on the closing bid price of the Company s common stock for the 30 consecutive business days prior to November 26, 2012, the Company no longer satisfied the Minimum Bid Price Requirement as required by NASDAQ Listing Rule 5450(a)(1) and that, pursuant to NASDAQ Listing Rule 5810(c)(3)(A), the Company had been provided with an initial period of 180 calendar days within which to evidence compliance with the Minimum Bid Price Requirement. The Company s listing was subsequently transferred to The NASDAQ Capital Market effective February 7, 2013. The rules applicable to companies listed on The NASDAQ Capital Market provide for an additional 180-day compliance period within which a company may evidence compliance with the Minimum Bid Price Requirement so long as certain criteria have been met by the company upon the expiration of the initial 180-day compliance period. The Company met those criteria as of May 28, 2013.

In its letter to the Company, NASDAQ indicated that if, at any time prior to November 25, 2013, the bid price for the Company s shares closes at or above $1.00 per share for a minimum of 10 consecutive business days (unless the NASDAQ staff exercises its discretion to extend the minimum 10-day period), NASDAQ will provide written confirmation to the Company of its compliance with the Minimum Bid Price Requirement. If the Company does not regain compliance with the Minimum Bid Price Requirement by November 25, 2013, the NASDAQ staff will provide to the Company written notification that the Company s shares are subject to delisting based on the deficiency. At that time, the Company may appeal the delisting determination to the NASDAQ Listing Qualifications Panel (the Panel). In the letter, NASDAQ also indicated that, if the Company were to appeal such a determination to the Panel, the Company would be asked to provide a plan to regain compliance and advised the Company that, historically, the Panel has generally viewed a near-term reverse stock split as the only definitive and acceptable plan to resolve a bid price deficiency.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: May 31, 2013

By: /s/ Louis J. Arcudi, III
Louis J. Arcudi, III
Chief Financial Officer,

Treasurer and Secretary

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the

Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): July 8, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

167 Sidney Street

Cambridge, Massachusetts	**02139**
(Address of principal executive offices)	**(Zip Code)**

Registrant s telephone number, including area code: (617) 679-5500

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

¨ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

¨ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

¨ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers

Effective as of July 8, 2013, the Board of Directors of Idera Pharmaceuticals, Inc. (the Company) elected James A. Geraghty to the Board of Directors as a Class II director and appointed him as Chairman of the Board. Mr. Geraghty s term as a Class II director will expire at the 2015 Annual Meeting of Stockholders.

In accordance with the Company s director compensation program, Mr. Geraghty will receive an annual cash retainer of $35,000 for service on the Board of Directors, which is payable quarterly in arrears. The Company s director compensation program includes a stock-for-fees policy, under which Mr. Geraghty has the right to elect, on a quarterly basis, to receive Common Stock of the Company in lieu of the cash fees.

In addition, upon his election to the Board of Directors, Mr. Geraghty was granted an option to purchase 450,000 shares of the Company s Common Stock at an exercise price of $0.71 per share. This grant includes the option grant to purchase 30,000 shares of the Company s Common Stock that is granted to directors upon their initial election to the Board under the Company s director compensation program. Mr. Geraghty has agreed to waive his right to receive an annual option grant to purchase 20,000 shares of the Company s Common Stock that would otherwise have been granted to him under the Company s director compensation program on the date of the Company s 2013 annual meeting of stockholders. All options granted to non-employee directors, including the grant to Mr. Geraghty, have an exercise price equal to the closing price of the Company s Common Stock on the date of grant and vest in equal quarterly installments over three years, subject to continued service as a director. These options automatically become exercisable in full upon the occurrence of a change in control of the Company.

Mr. Geraghty will be subject to the Company s director retirement policy, which provides for acceleration of vesting of options and an extension of the exercise period upon the retirement of a non-employee director, as more fully described in the Company s Proxy Statement filed on June 10, 2013 with the Securities and Exchange Commission.

Mr. Geraghty has not been elected to any committees of the Board. There was no arrangement or understanding between Mr. Geraghty and any other persons pursuant to which Mr. Geraghty was elected as a director and there are no related party transactions between Mr. Geraghty and the Company.

The Company s press release dated July 10, 2013 announcing the election of James A. Geraghty to the Board of Directors is filed as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.
See Exhibit Index attached hereto.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: July 10, 2013

By: /s/ Louis J. Arcudi, III
Louis J. Arcudi, III

Chief Financial Officer,

Treasurer and Secretary

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EXHIBIT INDEX

Exhibit No.	Description
99.1	Press release issued by Idera Pharmaceuticals, Inc. on July 10, 2013

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Exhibit 99.1

Idera Pharmaceuticals Appoints James Geraghty as Chairman of the Board of Directors

-Former Genzyme and Sanofi Senior Executive Brings Development and Commercialization Experience-

Cambridge, MA, July 10, 2013 Idera Pharmaceuticals, Inc. (NASDAQ: IDRA) today announced the appointment of James Geraghty to serve as a member of the Board of Directors and also as its Chairman. Mr. Geraghty has held a wide range of leadership positions during a 20-year career at Genzyme Corporation, including substantial experience overseeing product development, commercial launches, and strategic transactions. Mr. Geraghty also served as a Senior Vice President of Sanofi SA following its acquisition of Genzyme, and recently took on a role as an Entrepreneur-in-Residence at Third Rock Ventures.

It is my great pleasure to welcome Jim to Idera at this transformative period. We believe that the recently announced results of our clinical trials with Toll-like Receptor (TLR) antagonist drug candidates provide proof-of-concept for TLR antagonism as a novel approach to the treatment of psoriasis and potentially other autoimmune and inflammatory diseases, said Dr. Sudhir Agrawal, Chief Executive Officer of Idera. I believe that the addition of Jim and his extensive experience comes at an ideal moment, and we look forward to his guidance and contributions as we advance our programs toward later stage development.

Idera has established a clear leadership position in TLR research, and has generated very promising development candidates. I believe these candidates are poised to make important contributions to patients with serious diseases, and look forward to working with the entire Idera team to bring these TLR candidates through clinical development and to market, said Mr. James Geraghty.

James Geraghty is a life sciences industry leader. Currently an Entrepreneur-in-Residence at Third Rock Ventures, Jim served as Senior Vice President, North America Strategy and Business Development at Sanofi, where he was a member of the Office of the CEO. Prior to Sanofi s acquisition Jim spent 20 years at Genzyme Corporation, most recently as Senior Vice President, and helped Genzyme introduce rare disease therapies around the world. His roles included President of Genzyme Europe, where he oversaw several new product launches, and General Manager of Genzyme s cardiovascular business, where he guided the development of a recently approved antisense product. He also led strategic transactions that brought important new products into Genzyme, as well as divestitures valued at over $1 billion. He was previously Chairman, President and CEO of Genzyme Transgenics Corporation (later GTC Biotherapeutics), which he founded and took public. Jim served as co-chair of the executive committee for BIO 2007, was for a number of years a member of the board of Bluebird Bio, and continues to serve on the board of Bio Ventures for Global Health (BVGH). A graduate of the Yale Law School, he has published articles in the Yale Law Journal, Health Affairs and elsewhere. He holds an MS from the University of Pennsylvania and a BA from Georgetown University.

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About TLRs and Idera s Pipeline

Toll-like Receptors (TLRs) play a key role in immunity and inflammation. Using a chemistry-based approach, Idera has created compounds targeted to endosomal TLRs 3, 7, 8, and 9. In autoimmune diseases, immune complexes containing host DNA/RNA activate TLRs 7, 8, and 9, which induce multiple cytokines that further exacerbate the disease. Inhibition of these TLRs is a novel approach for the potential treatment of autoimmune diseases. IMO-8400 is an antagonist of TLRs 7, 8, and 9, and has shown therapeutic activity in preclinical models of psoriasis, lupus, and arthritis. Our proof-of-concept Phase 2 trial of TLR antagonism in patients with psoriasis using a TLR7 and 9 antagonist, IMO-3100, showed PASI score improvements which correlated with significant improvement in psoriasis disease associated gene profile, including downregulation of the IL-17 pathway.

About Idera Pharmaceuticals, Inc.

Idera Pharmaceuticals applies its proprietary Toll-like receptor (TLR) drug discovery platform to create immunomodulatory drug candidates and is conducting clinical development in autoimmune and inflammatory diseases. Additionally, Idera has a collaboration with Merck & Co. for the use of TLR-targeted candidates as vaccine adjuvants. For more information, visit http://www.iderapharma.com.

Idera Forward Looking Statements

This press release contains forward-looking statements concerning Idera Pharmaceuticals, Inc. that involve a number of risks and uncertainties. For this purpose, any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words believes, anticipates, plans, expects, estimates, intends, should, could, will, may, ar expressions are intended to identify forward-looking statements. There are a number of important factors that could cause Idera s actual results to differ materially from those indicated by such forward-looking statements, including whether Idera s cash resources will be sufficient to fund the Company s continuing operations and the further development of the Company s autoimmune disease program including future clinical trials of IMO-8400; whether results obtained in preclinical studies and early clinical trials will be indicative of results obtained in future clinical trials; whether products based on Idera s technology will advance into or through the clinical trial process on a timely basis or at all and receive approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies; whether, if the Company s products receive approval, they will be successfully distributed and marketed; whether the Company s collaboration with Merck & Co, Inc., will be successful; and such other important factors as are set forth under the caption Risk Factors in Idera s Quarterly Report on Form 10-Q for the quarter ended March 31, 2013, which important factors are incorporated herein by reference. Idera disclaims any intention or obligation to update any forward-looking statements.

Contact:

Idera Pharmaceuticals, Inc.

Lou Arcudi, 617-679-5517

larcudi@iderapharma.com

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d)

of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): July 26, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

167 Sidney Street

Cambridge, Massachusetts **02139**
(Address of principal executive offices) **(Zip Code)**
Registrant s telephone number, including area code: (617) 679-5500

(Former Name or Former Address, if Changed Since Last Report)

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¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 3.03. Material Modifications to Rights of Security Holders.

On July 26, 2013, a Certificate of Amendment was filed with the Secretary of State of the State of Delaware amending the Certificate of Designations, Preferences and Rights of Series D Preferred Stock (the Series D Certificate of Designations) to:

provide that (a) the beneficial ownership limitation that prohibits the Company from paying a holder of the Company s Series D preferred stock dividends payable in shares of the Company s common stock to the extent the issuance of such shares would result in the holder of the Series D preferred stock and its affiliates beneficially owning more than 19.99% of the outstanding common stock (including shares of common stock issuable upon conversion of the Series D preferred stock) would be increased from 19.99% to 35% in the event that the Nasdaq Proposal (as defined below) was approved by the Company s stockholders and (b) the beneficial ownership limitation that prohibits a holder of Series D preferred stock from converting its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of the outstanding common stock (including shares of common stock issuable upon conversion of the Series D preferred stock) would be increased from 19.99% to 35% in the event that the Nasdaq Proposal was approved by the Company s stockholders.

eliminate the requirement that the Company pay corresponding dividends to the holders of Series D preferred stock upon payment of dividends to holders of the Company s Series E preferred stock;

change the date after which the Company may elect to pay dividends in shares of common stock from December 31, 2014 to October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of common stock as a result of the application of the beneficial ownership limitation set forth in the Series D Certificate of Designations;

eliminate the right of holders of Series D preferred stock to receive, in the event of a liquidation, dissolution or winding up of the Company (a Liquidation), an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation; and

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provide, in the event of a sale of the Company, for the distribution of any assets that remain available for distribution to the Company s stockholders, after payment to the holders of the Company s Series A preferred stock and any other class of the Company s capital stock that ranks senior to the Series D preferred stock, to the holders of Series D preferred stock on a pro rata basis with the holders of common stock, Series E preferred stock and such new series of non-voting preferred stock that was *pari passu* with the Series D preferred stock.

Additionally, on July 26, 2013, a Certificate of Amendment was filed with the Secretary of State of the State of Delaware amending the Certificate of Designations, Preferences and Rights of Series E Preferred Stock (the Series E Certificate of Designations) to:

permit the Company to elect to pay dividends to the holders of Series E preferred stock in shares of common stock in lieu of cash beginning October 1, 2013, and to allow for the payment of such dividends in shares of a to-be-created new series of non-voting preferred stock in the event that payment of such dividends may not be made in shares of common stock as a result of the application of the beneficial ownership limitation set forth in the Series E Certificate of Designations; and

eliminate the right of the holders of Series E preferred stock to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation.

Each of the above described amendments to the Series D Certificate of Designations and Series E Certificate of Designations were approved by the Company s stockholders at its 2013 annual meeting of stockholders (the Annual Meeting). Copies of the Certificate of Amendment to Series D Certificate of Designations and Certificate of Amendment to Series E Certificate of Designation are attached hereto as Exhibit 3.1 and Exhibit 3.2, respectively, and incorporated by reference.

Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(e)

At the Annual Meeting, the Company s stockholders approved the 2013 Stock Incentive Plan (the 2013 Plan). The 2013 Plan had previously been adopted by the Company s Board of Directors subject to stockholder approval.

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The following brief description of the 2013 Plan is qualified in its entirety by reference to the complete text of the plan, a copy of which is attached as Exhibit 10.1 hereto and is incorporated herein by reference. Copies of the forms of incentive stock option agreement, nonstatutory stock option agreement and nonstatutory stock option agreement for non-employee directors adopted by the Company s Board of Directors for awards granted under the 2013 Plan are also attached hereto as Exhibits 10.2, 10.3 and 10.4, respectively, and are incorporated herein by reference.

The 2013 Plan allows for the issuance of up to 4,000,000 shares of the Company s common stock plus such additional number of shares of common stock (up to 5,945,000) as is equal to the sum of (i) 224,460, representing the number of shares of common stock reserved for issuance under the Company s 2008 Stock Incentive Plan that were available for grant under the 2008 Stock Incentive Plan immediately prior to stockholder approval of the 2013 Plan and (ii) the number of shares of common stock subject to awards granted under the Company s 2008 Stock Incentive Plan which awards expire, terminate or are otherwise surrendered, cancelled, or forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right.

Employees, officers, directors, consultants and advisors of the Company and of its future parent or subsidiary corporations and any other business venture in which the Company has a controlling interest (as determined by the Company s Board of Directors) are eligible to be granted Awards under the 2013 Plan. However, incentive stock options may only be granted to employees of the Company, employees of the Company s present or future parent or subsidiary corporations, and employees of any other entities the employees of which are eligible to receive incentive stock options under the Code. The Company s Board of Directors has authorized the compensation committee to administer certain aspects of the 2013 Plan, including the granting of awards to directors and executive officers. In addition, as permitted by the terms of the 2013 Plan, the Board of Directors has delegated to the Chief Executive Officer of the Company the authority to grant equity awards to non-executive employees in accordance with guidelines established by the compensation committee of the Board of Directors.

Item 5.03. Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

At the Annual Meeting, the Company s stockholders approved an amendment to the Company s Restated Certificate of Incorporation to increase the number of authorized shares of the Company s common stock from 140,000,000 shares to 280,000,000 shares. The increase in the number of authorized shares of the Company s common stock was effected pursuant to a Certificate of Amendment to the Company s Restated Certificate of Incorporation (the Certificate of Amendment to the Restated Certificate) filed with the Secretary of State of the State of Delaware on July 26, 2013. A copy of the Certificate of Amendment to the Restated Certificate is attached as Exhibit 3.3 hereto and incorporated herein by reference.

Also at the Annual Meeting, the Company s stockholders approved amendments to the Series D Certificate of Designations and the Series E Certificate of Designations to effect the changes to the Series D preferred stock and Series E preferred stock described in Item 3.03 of this Current Report on Form 8-k. The information set forth in Item 3.03 of this Current Report on Form 8-k is incorporated herein by reference.

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Item 5.07. Submission of Matters to a Vote of Security Holders.

At the Annual Meeting, the Company s stockholders voted in the following manner with respect to the following proposals:

1a. The proposed amendment to the Company s Restated Certificate of Incorporation to declassify the Company s Board of Directors was not approved.

For:	31,179,529
Against:	229,997
Abstain:	22,065
Broker Non-Votes:	6,294,237

1b. The proposed amendment to the Company s Restated Certificate of Incorporation to provide that the Company s stockholders may remove the Company s directors with or without cause following declassification of the Company s Board of Directors was not approved.

For:	31,183,531
Against:	246,200
Abstain:	1,860
Broker Non-Votes:	6,294,237

1c. The proposed amendment to the Company s Restated Certificate of Incorporation to eliminate the supermajority voting requirement for amending or repealing Article ELEVENTH of the Restated Certificate of Incorporation was not approved.

For:	31,175,535
Against:	249,957
Abstain:	6,099
Broker Non-Votes:	6,294,237

Each of proposals 1(a), 1(b) and 1(c) required the affirmative vote of the stockholders of the Company holding at least 75% of the issued and outstanding shares of the common stock and Series D preferred stock entitled to vote, voting together as a single class and on an as converted basis.

2. The proposed amendment to the Company s Restated Certificate of Incorporation to increase the number of authorized shares of common stock from 140,000,000 to 280,000,000 was approved.

For:	37,141,762
Against:	569,001
Abstain:	15,064

3. A non-binding, advisory proposal on the compensation of the Company s named executive officers was approved.

For:	30,749,622
Against:	250,689
Abstain:	431,280
Broker Non-Votes:	6,294,237

4. The Company s 2013 Stock Incentive Plan was approved.

For:	30,729,678
Against:	270,258
Abstain:	431,655
Broker Non-Votes:	6,294,237

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5. The appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2013 was ratified.

For:	37,236,805
Against:	67,206
Abstain:	421,816

6. The following nominees were elected to the Company s Board of Directors as Class III directors for terms expiring at the 2016 annual meeting of stockholders.

	For	Withheld	Broker Non-Votes
Dr. Sudhir Agrawal	31,378,757	52,834	6,294,237
Dr. Eve Slater	31,381,606	49,985	6,294,237
Mr. Youssef El Zein	31,385,646	45,945	6,294,237

7. The issuance and sale by the Company to certain affiliates of Pillar Invest Corporation (including the Company s prior issuances and sales of its securities to such affiliates in November 2011 and November 2012) of a number of shares of common stock that is greater than 19.99% of the total number of issued and outstanding shares of common stock and the outstanding voting power of the Company s securities after such issuance and sale in accordance with Nasdaq Listing Rule 5635(b) (the Nasdaq Proposal) was not approved.

Common stock and Series D preferred stock voting together as a single class and on an as-converted basis:

For:	31,145,557
Against:	252,634
Abstain:	33,400
Broker Non-Votes:	6,294,237

Common stock and Series D preferred stock held by the stockholders of the Company (other than the Company, Pillar Invest Corporation and their respective affiliates) voting together as a single class and on an as-converted basis:

For:	18,950,739
Against:	233,867
Abstain:	30,919
Broker Non-Votes:	6,294,237

Proposal 7 required the affirmative vote of (i) the stockholders of the Company holding a majority of the issued and outstanding shares of the common stock and Series D preferred stock present in person or represented by proxy and voting on the matter, voting as a single class and on an as converted basis and (ii) the stockholders of the Company (other than the Company, Pillar Invest Corporation, and their respective affiliates) holding a majority of the issued and outstanding shares of the common stock and Series D preferred stock entitled to vote and held by such stockholders, voting as a single class and on an as converted basis.

8a. The proposed amendment to the Company s Restated Certificate of Incorporation amending the Series D Certificate of Designations to provide that, if the Nasdaq Proposal were approved by the Company s stockholders, the beneficial ownership limitation applicable to the Series D

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preferred stock would be increased from 19.99% to 35% consistent with the beneficial ownership limitations applicable to the Series E preferred stock was approved. However, because the Nasdaq Proposal was not approved by the Company s stockholders, the beneficial ownership limitation applicable to the Series D preferred stock set forth in the Series D Certificate of Designations, as amended by the Certificate of Amendment to Series D Certificate of Designations, will remain at 19.99%.

Common stock and Series D preferred stock voting together as a single class and on an as-converted basis:

For:	31,044,453
Against:	354,446
Abstain:	32,692
Broker Non-Votes:	6,294,237

Series D preferred stock voting separately as a series:

For:	1,124,260
Against:	0
Abstain:	0

8b. The proposed amendment to the Company s Restated Certificate of Incorporation amending the Series D Certificate of Designations to eliminate the requirement that the Company pay dividends to the holders of Series D preferred stock upon payment of dividends to the holders of Series E preferred stock was approved.

Common stock and Series D preferred stock voting together as a single class and on an as-converted basis:

For:	30,986,167
Against:	408,708
Abstain:	36,716
Broker Non-Votes:	6,294,237

Series D preferred stock voting separately as a series:

For:	1,124,260
Against:	0
Abstain:	0

8c. The proposed amendment to the Company s Restated Certificate of Incorporation amending the Series D Certificate of Designations to (i) change the date after which the Company may elect to pay dividends to the holders of the Series D preferred stock in shares of common stock in lieu of cash from December 31, 2014 to October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of preferred stock in the event that payment of such dividends may not be made in shares of common stock as a result of the application of the beneficial ownership limitations set forth in the Series D Certificate of Designations was approved.

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Common stock and Series D preferred stock voting together as a single class and on an as-converted basis:

For:	31,043,881
Against:	350,102
Abstain:	37,608
Broker Non-Votes:	6,294,237

Series D preferred stock voting separately as a series:

For:	1,124,260
Against:	0
Abstain:	0

8d. The proposed amendment to the Company s Restated Certificate of Incorporation amending the Series D Certificate of Designations to (i) eliminate the provision of the Series D Certificate of Designations that had provided the holders of Series D preferred stock with the right to require the Company to redeem the Series D preferred stock upon the occurrence of specified fundamental changes and provide, in the event of a sale of the corporation (as defined in the Series D Certificate of Designations), for the distribution of any assets that remain available for distribution to the Company s stockholders, after payment to the holders of the Series A preferred stock and any other class of the Company s capital stock that ranks senior to the Series D preferred stock, to the holders of the Series D preferred stock on a pro rata basis with the holders of common stock, Series E preferred stock and any new series of non-voting preferred stock that ranks *pari passu* with the Series D preferred stock and (ii) eliminate the right of the holders of Series D preferred stock to receive, in the event of a Liquidation, an amount per share of Series D preferred stock equal to the original issue price of such share of Series D preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of Series D preferred stock will receive an amount per share of Series D preferred stock equal to the amount that would be payable with respect to such share had all shares of Series D preferred stock been converted into shares of common stock immediately prior to such Liquidation, was approved.

Common stock and Series D preferred stock voting together as a single class and on an as-converted basis:

For:	30,628,244
Against:	342,000
Abstain:	461,347
Broker Non-Votes:	6,294,237

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Series D preferred stock voting separately as a series:

For:	1,124,260
Against:	0
Abstain:	0

9a. The proposed amendment to the Company s Restated Certificate of Incorporation amending the Series E Certificate of Designations to (i) permit the Company to elect to pay dividends to the holders of Series E preferred stock in shares of common stock in lieu of cash commencing October 1, 2013, and (ii) allow for the payment of such dividends in shares of a to-be-created new series of preferred stock in the event that payment of such dividends may not be made in shares of common stock as a result of the application of the beneficial ownership limitations set forth in the Series E Certificate of Designations was approved.

Common stock and Series D preferred stock voting together as a single class and on an as-converted basis:

For:	30,624,259
Against:	345,850
Abstain:	461,482
Broker Non-Votes:	6,294,237

Series E preferred stock voting separately as a series:

For:	424,242
Against:	0
Abstain:	0

9b. The proposed amendment to the Company s Restated Certificate of Incorporation amending the Series E Certificate of Designations to eliminate the right of the holders of Series E preferred stock to receive, in the event of a Liquidation, an amount per share of Series E preferred stock equal to the original issue price of such share of Series E preferred stock plus any dividends accrued or declared but unpaid thereon to the extent such amount is greater than the amount that would have been payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation, such that upon a Liquidation the holders of Series E preferred stock will receive an amount per share of Series E preferred stock equal to the amount that would be payable with respect to such share had all shares of Series E preferred stock been converted into shares of common stock immediately prior to such Liquidation, was approved.

Common stock and Series D preferred stock voting together as a single class and on an as-converted basis:

For:	30,631,863
Against:	342,000
Abstain:	457,728
Broker Non-Votes:	6,294,237

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Series E preferred stock voting separately as a series:

For:	424,242
Against:	0
Abstain:	0

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

See attached Exhibit Index.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: July 29, 2013

By: /s/ Sudhir Agrawal, D. Phil.
Sudhir Agrawal, D. Phil.
President and Chief Executive Officer

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EXHIBIT INDEX

Exhibit No.	Description
3.1	Certificate of Amendment to the Series D Certificate of Designations of the Company
3.2	Certificate of Amendment to the Series E Certificate of Designations of the Company
3.3	Certificate of Amendment to the Restated Certificate of Incorporation of the Company
10.1	2013 Stock Incentive Plan
10.2	Form of Incentive Stock Option Agreement Granted Under the 2013 Stock Incentive Plan
10.3	Form of Nonstatutory Stock Option Agreement Granted Under the 2013 Stock Incentive Plan
10.4	Form of Nonstatutory Stock Option Agreement (Non-employee Directors) Granted Under the 2013 Stock Incentive Plan

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Exhibit 3.1

IDERA PHARMACEUTICALS, INC.

CERTIFICATE OF AMENDMENT OF

CERTIFICATE OF DESIGNATIONS, PREFERENCES AND RIGHTS OF

SERIES D PREFERRED STOCK

Pursuant to Section 242 of the

General Corporation Law of the State of Delaware

Idera Pharmaceuticals, Inc., a Delaware corporation (the Corporation), in accordance with Section 103 of the General Corporation Law of the State of Delaware (the General Corporation Law), hereby certifies as follows:

A Certificate of Designations, Preferences and Rights of Series D Preferred Stock (the Certificate of Designations) was filed with the Secretary of State of the State of Delaware on November 4, 2011 pursuant to Section 151 of the General Corporation Law. By action of the Board of Directors of the Corporation, the Board of Directors of the Corporation duly adopted resolutions, pursuant to Section 242 of the General Corporation Law, setting forth amendments to the Certificate of Designations and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendments in accordance with Section 242 of the General Corporation Law at a meeting of stockholders held on July 26, 2013. The resolutions setting forth the proposed amendment are as follows:

RESOLVED, that Section 1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

1.1 Series D Preferred Dividends.

1.1.1 Each holder of Series D Preferred Stock shall be entitled to receive, with respect to each share of Series D Preferred Stock then outstanding and held by such holder of Series D Preferred Stock, dividends, commencing from the date of issuance of such share of Series D Preferred Stock, at the rate of seven percent (7%) per annum (on the basis of a 360 day year) of the Series D Original Issue Price (as defined below) (the **Series D Preferred Dividends**). The Series D Preferred Dividends shall be cumulative, whether or not earned or declared, shall be paid quarterly in arrears on the last day of December, March, June and September (a **Quarterly Dividend Payment Date**) in each year that Series D Preferred Stock is outstanding, with the first Quarterly Dividend Payment Date being December 31, 2011, and shall be prorated for periods shorter than one quarter. The rights of a holder of Series D Preferred Stock as Series D Preferred Dividends shall rank senior to the rights of the Corporation s Series A Convertible Preferred Stock as to dividends.

1.1.2 The Series D Preferred Dividends shall be paid to each holder of Series D Preferred Stock in cash out of legally available funds or, at the Corporation s election, through the issuance of such number of shares of the Corporation s Common

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Stock, par value $0.001 per share (the **Common Stock**) (rounded down to the nearest whole share with any fractional shares being issued in cash in an amount equal to the Market Price (as defined in Section 4.2 below) of such fractional share of Common Stock) determined by dividing the amount of the total accrued but unpaid dividends then outstanding on such holder s shares of Series D Preferred Stock by the Market Price then in effect (which for this purpose may not be less than $1.46 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); provided, however, that (i) the Corporation may not pay such dividends in shares of Common Stock on or prior to October 1, 2013, (ii) the Corporation may not issue shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such issuance, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the **Exchange Act**), to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation following such issuance, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such issuance, unless and until, in either case of clause (a) and clause (b) of this Section 1.1.2, the stockholders of the Corporation approve the Nasdaq Proposal (as defined by and in accordance with Section 5.11(B) of that certain Convertible Preferred Stock and Warrant Purchase Agreement, dated November 9, 2012, between the Corporation and the Purchasers named therein), in which case, the 19.99% limitation under clause (a) and (b) of this Section 1.1.2 shall be increased, with respect to any holder of Series D Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 1.1.2, and (iii) if clause (ii) shall in fact limit the issuance of any shares of Common Stock in payment of a given dividend, then the Corporation s election to pay such dividend in shares of Common Stock shall be ineffective to the extent of such limitation and such dividend shall instead thereupon be paid, at the Corporation s election, (x) in cash by the Corporation out of legally available funds or (y) through the issuance of a number of shares of the Corporation s Series F Convertible Preferred Stock, par value $0.01 per share (the **Series F Preferred Stock**) equal to one-twentieth (1/20th) of the number of shares of Common Stock that the Corporation could have issued pursuant to this Section 1.1.2 with respect to such Series D Preferred Dividends but for the limitations set forth in clause (a) and clause (b) of this Section 1.1.2.

1.1.3 Any election by the Corporation to pay Series D Preferred Dividends in cash or in shares of Common Stock or Series F Preferred Stock shall be made uniformly with respect to all outstanding shares of Series D Preferred Stock for a given dividend period.

1.1.4 For purposes of this Section 1.1 the aggregate number of shares of Common Stock or voting securities beneficially owned by a holder of Series D Preferred

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Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act, shall include the shares of Common Stock to be issued as part of such dividend payment, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

* * *

RESOLVED, that Section 1.3 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

1.3 The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock, dividends on the Series A Convertible Preferred Stock in accordance with Section 2(a) of the Certificate of Designations for the Series A Convertible Preferred Stock and dividends on the Series E Preferred Stock in accordance with Section 1.1 of the Certificate of Designations for the Series E Convertible Preferred Stock unless the holders of the Series D Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Series D Preferred Stock in an amount at least equal to the sum of (i) the amount of the aggregate dividends then accrued on such share of Series D Preferred Stock and not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Series D Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of Series D Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Series D Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the Series D Original Issue Price; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Series D Preferred Stock pursuant to this Section 1.3 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series D Preferred Stock dividend.

* * *

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RESOLVED, that Section 2.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.1 Payments to Holders of Series D Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series D Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock, Series A Convertible Preferred Stock or any other class of capital stock of the Corporation ranking junior to the Series D Preferred Stock as to liquidation, by reason of their ownership thereof, an amount per share equal to such amount as would have been payable with respect to such share had all shares of Series D Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up, disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.1. If upon any such liquidation, dissolution or winding up of the Corporation, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series D Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series D Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

* * *

RESOLVED, that Section 4.1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

4.1.1 Conversion Ratio. Each share of Series D Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series D Original Issue Price by the Series D Conversion Price (as defined below) in effect at the time of conversion. The Series D Conversion Price shall initially be equal to $1.6275. Such initial Series D Conversion Price, and the rate at which shares of Series D Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. Notwithstanding the foregoing, the Corporation shall not effect any conversion of such holder s Series D Preferred Stock and such holder shall not be entitled to convert its shares of Series D Preferred Stock for a number of shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such conversion, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series D Preferred Stock and its affiliates and

any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation (including for such purpose the shares of Common Stock issuable upon conversion of the Series D Preferred Stock) following such conversion, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series D Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding following such conversion, unless, in either case, the stockholders of the Corporation approve the Nasdaq Proposal, in which case, the 19.99% limitation under clause (a) and clause (b) of this Section 4.1.1 shall be increased, with respect to any holder of Series D Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 4.1.1. For purposes of this Section 4.1.1, the aggregate number of shares of Common Stock or voting securities beneficially owned by the holder and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the conversion of the Series D Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

* * *

RESOLVED, that Section 4.1.2 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

4.1.2 Termination of Conversion Rights. In the event of a notice of redemption of any shares of Series D Preferred Stock pursuant to Section 5, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a liquidation, dissolution or winding up of the Corporation or a Sale of the Corporation (as defined in Section 6.2 below), the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Series D Preferred Stock.

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RESOLVED, that Section 6 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

6. Sale of the Corporation.

6.1 In the event of a Sale of the Corporation (as defined below) after payment shall be made to the holders of Series A Convertible Preferred Stock and any other class of capital stock of the Corporation ranking senior to the Series D Preferred Stock upon a Sale of the Corporation, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series D Preferred Stock, Series E Preferred Stock and Common Stock pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of the Certificate of Incorporation immediately prior to such Sale of the Corporation disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.1.

6.2 The term **Sale of the Corporation** shall mean each of the following events: (a) a merger or consolidation in which (i) the Corporation is a constituent party or (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation (except in the case of clause (i) and (ii), any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (y) the surviving or resulting corporation or (z) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or (b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation. For the purposes of clarity, a Sale of the Corporation shall not be deemed to be a liquidation, dissolution or winding up of the Corporation for the purposes of this Section 6.

* * *

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IN WITNESS WHEREOF, this Certificate of Amendment has been executed by a duly authorized officer of the Corporation on this 26th day of July, 2013.

IDERA PHARMACEUTICALS, INC.

By: /s/ Sudhir Agrawal
Name: Sudhir Agrawal
Title: Chief Executive Officer

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Exhibit 3.2

IDERA PHARMACEUTICALS, INC.

CERTIFICATE OF AMENDMENT OF

CERTIFICATE OF DESIGNATIONS, PREFERENCES AND RIGHTS OF

SERIES E PREFERRED STOCK

Pursuant to Section 242 of the

General Corporation Law of the State of Delaware

Idera Pharmaceuticals, Inc., a Delaware corporation (the Corporation), in accordance with Section 103 of the General Corporation Law of the State of Delaware (the General Corporation Law), hereby certifies as follows:

A Certificate of Designations, Preferences and Rights of Series E Preferred Stock (the Certificate of Designations) was filed with the Secretary of State of the State of Delaware on November 9, 2012 pursuant to Section 151 of the General Corporation Law. By action of the Board of Directors of the Corporation, the Board of Directors of the Corporation duly adopted resolutions, pursuant to Section 242 of the General Corporation Law, setting forth amendments to the Certificate of Designations and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendments in accordance with Section 242 of the General Corporation Law at a meeting of stockholders held on July 26, 2013. The resolutions setting forth the proposed amendment are as follows:

RESOLVED, that Section 1.1 of the Certificate of Designations be deleted in its entirety and the following new paragraph be inserted in lieu thereof:

1.1 Series E Preferred Dividends.

1.1.1 Each holder of Series E Preferred Stock shall be entitled to receive with respect to each share of Series E Preferred Stock then outstanding and held by such holder of Series E Preferred Stock, dividends, commencing from the date of issuance of such share of Series E Preferred Stock, at the Initial Dividend Rate (as defined below) per annum (on the basis of a 360 day year) of the Series E Original Issue Price (as defined below) (the **Series E Preferred Dividends**); provided, however, that subject to and effective upon the filing with the Delaware Secretary of State of the amendment to the Certificate of Designations, Preferences and Rights of Series D Preferred Stock (the **Series D Certificate of Designations**, with the amendment thereto being referred to as the **Amendment to Series D Certificate of Designations**) as described in Section 5.11(B) of that certain Convertible Preferred Stock and Warrant Purchase Agreement, dated November 9, 2012, between the Corporation and the purchasers of the Series E Preferred Stock therein (the **Series E Purchase Agreement**), the dividend rate provided for in this Section 1.1 shall be increased from the Initial Dividend Rate to the rate of eight percent (8%) per annum (on the basis of a 360 day year) of the Series E Original Issue Price. The Series E Preferred Dividends shall be cumulative, whether or not earned or declared, shall be paid quarterly in arrears on the last day of March, June, September and December (a **Quarterly Dividend Payment Date**) in each year that Series E Preferred Stock is outstanding, with the first Quarterly Dividend Payment Date being March 31, 2013, and shall

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be prorated for periods shorter than one quarter. Notwithstanding the foregoing, if, as of any Quarterly Dividend Payment Date at which the dividend rate is the Initial Dividend Rate, there are no shares of the Corporation s Series D Convertible Preferred Stock outstanding, then the dividend payable on such Quarterly Dividend Payment Date shall be calculated and paid at a rate of eight percent (8%) per annum (on the basis of a 360 day year) of the Series E Original Issue Price. In the event that the Amendment to Series D Certificate of Designations is filed with the Delaware Secretary of State and the dividend rate with respect to the Series E Preferred Dividends is increased pursuant to this Section 1.1.1, the Series E Preferred Dividends paid on the first Quarterly Dividend Payment Date after such filing and increase shall be paid at the increased rate. In the event that the Amendment to Series D Certificate of Designations is submitted to the stockholders of the Corporation as contemplated by Section 5.11 of the Series E Purchase Agreement and the Amendment to Series D Certificate of Designations is not approved, then the holders of the Series E Preferred Stock shall no longer be entitled to any Series E Preferred Dividends under this Section 1.1.1 and the Corporation shall have no further obligation to pay the Series E Preferred Dividends under this Section 1.1.1; provided, however, the Corporation shall not submit the Amendment to the Series D Certificate of Designations to the stockholders if there are no shares of Series D Preferred Stock then outstanding. The rights of a holder of Series E Preferred Stock to Series E Preferred Dividends shall rank senior to the rights of the Corporation s Series A Convertible Preferred Stock and Series D Convertible Preferred Stock as to dividends. The term **Initial Dividend Rate** shall mean four and six tenths percent (4.6%) or such other percentage approved by the Corporation and by the holders of at least a majority of then outstanding shares of Series E Preferred Stock, with such approval given in writing or by vote at a meeting, consenting or voting (as the case may be) as a separate class.

1.1.2 The Series E Preferred Dividends shall be paid to each holder of Series E Preferred Stock in cash out of legally available funds or, at the Corporation s election, through the issuance of such number of shares of Common Stock (as defined in Section 1.3 below) (rounded down to the nearest whole share with any fractional shares being issued in cash in an amount equal to the Market Price (as defined in Section 4.2 below) of such fractional share of Common Stock) determined by dividing the amount of the total accrued but unpaid dividends then outstanding on such holder s shares of Series E Preferred Stock by the Market Price then in effect (which for this purpose may not be less than $0.70 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock); provided, however, that (i) the Corporation may not pay such dividends in shares of Common Stock on or prior to October 1, 2013, (ii) the Corporation may not issue shares of Common Stock in excess of that number of shares of Common Stock which, upon giving effect to such issuance, would cause (a) the aggregate number of shares of Common Stock beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act (as defined in Section 4.1.2), to exceed 19.99% of the total number of issued and outstanding shares of Common Stock of the Corporation following such issuance, or (b) the combined voting power of the securities of the Corporation beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act to exceed 19.99% of the combined voting power of all of the securities of the Corporation then outstanding

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following such issuance, unless and until, in either case of clause (a) and clause (b) of this Section 1.1.2, the stockholders of the Corporation approve the Nasdaq Proposal (as defined in Section 3.1 below), in which case, the 19.99% limitation under clause (a) and (b) of this Section 1.1.2 shall be increased, with respect to any holder of Series E Preferred Stock, to 35% for purposes of both clause (a) and clause (b) of this Section 1.1.2, and (iii) if clause (ii) shall in fact limit the issuance of any shares of Common Stock in payment of a given dividend, then the Corporation s election to pay such dividend in shares of Common Stock shall be ineffective to the extent of such limitation and such dividend shall instead thereupon be paid, at the Corporation s election, (x) in cash by the Corporation out of legally available funds or (y) through the issuance of a number of shares of the Corporation s Series F Convertible Preferred Stock, par value $0.01 per share (the **Series F Preferred Stock**) equal to one-twentieth (1/20th) of the number of shares of Common Stock that the Corporation could have issued pursuant to this Section 1.1.2 with respect to such Series E Preferred Dividends but for the limitations set forth in clause (a) and clause (b) of this Section 1.1.2.

1.1.3 Any election by the Corporation to pay Series E Preferred Dividends in cash or shares of Common Stock and/or Series F Preferred Stock shall be made uniformly with respect to all outstanding shares of Series E Preferred Stock for a given dividend period.

1.1.4 For purposes of this Section 1.1, the aggregate number of shares of Common Stock or voting securities beneficially owned by a holder of Series E Preferred Stock and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act, shall include the shares of Common Stock to be issued as part of such dividend payment, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Corporation that do not have voting power (including without limitation any securities of the Corporation which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder or any of its affiliates and other persons whose beneficial ownership of Common Stock would be aggregated with the holder s for purposes of Section 13(d) of the Exchange Act.

* * *

RESOLVED, that Section 2.1.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.1.1 In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series E Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock, Series A Convertible Preferred Stock, Series D Convertible Preferred Stock or any other class of capital stock of the Corporation ranking junior to the Series E Preferred Stock as to liquidation, by reason of their ownership thereof, an amount per share equal to such amount as would have been

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payable with respect to such share had all shares of Series E Preferred Stock been converted into Common Stock pursuant to Subsection 4 immediately prior to such liquidation, dissolution or winding up disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.2.

* * *

RESOLVED, that Section 2.3.1 of the Certificate of Designations be deleted in its entirety and that the following paragraph be inserted in lieu thereof:

2.3.1 In the event of a Sale of the Corporation (as defined below) after payment shall be made to the holders of Series A Convertible Preferred Stock and any other class of capital stock of the Corporation ranking senior to the Series E Preferred Stock upon a Sale of the Corporation, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series E Preferred Stock, Series D Preferred Stock and Common Stock pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of the Certificate of Incorporation immediately prior to such Sale of the Corporation disregarding for these purposes the limitations on conversion due to beneficial ownership set forth in Subsection 4.1.2.

* * *

IN WITNESS WHEREOF, this Certificate of Amendment has been executed by a duly authorized officer of the Corporation on this 26th day of July, 2013.

IDERA PHARMACEUTICALS, INC.

By: /s/ Sudhir Agrawal
Name: Sudhir Agrawal
Title: Chief Executive Officer

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Exhibit 3.3

CERTIFICATE OF AMENDMENT

TO THE

RESTATED CERTIFICATE OF INCORPORATION

OF

IDERA PHARMACEUTICALS, INC.

Idera Pharmaceuticals, Inc. (hereinafter called the Corporation), organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

By action of the Board of Directors of the Corporation at a meeting held on May 22, 2013, the Board of Directors of the Corporation duly adopted a resolution, pursuant to Section 242 of the General Corporation Law of the State of Delaware, setting forth an amendment to the Restated Certificate of Incorporation of the Corporation, as amended to date (the Certificate of Incorporation), and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment in accordance with Section 242 of the General Corporation Law of the State of Delaware at a meeting of stockholders held on July 26, 2013. The resolution setting forth the amendment is as follows:

RESOLVED: That the first paragraph of Article FOURTH of the Certificate of Incorporation be and hereby is amended and restated in its entirety so that the same shall read as follows:

FOURTH. The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) Two Hundred Eighty Million (280,000,000) shares of Common Stock, $.001 par value per share (Common Stock), and (ii) Five Million (5,000,000) shares of Preferred Stock, $.01 par value per share (Preferred Stock), which may be issued from time to time in one or more series as set forth in Part B of this Article FOURTH.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its duly authorized officer this 26th day of July, 2013.

IDERA PHARMACEUTICALS, INC.

By: /s/ Sudhir Agrawal
Sudhir Agrawal, D. Phil.
President and Chief Executive Officer

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Exhibit 10.1

IDERA PHARMACEUTICALS, INC.

2013 STOCK INCENTIVE PLAN

1. Purpose

The purpose of this 2013 Stock Incentive Plan (the ***Plan***) of Idera Pharmaceuticals, Inc., a Delaware corporation (the ***Company***), is to advance the interests of the Company s stockholders by enhancing the Company s ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company s stockholders. Except where the context otherwise requires, the term ***Company*** shall include any of the Company s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations thereunder (the ***Code***) and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the ***Board***).

2. Eligibility

All of the Company s employees, officers and directors, as well as consultants and advisors to the Company (as such terms are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended (the ***Securities Act***), or any successor form) are eligible to be granted Awards under the Plan. Each person who is granted an Award under the Plan is deemed a ***Participant***. ***Award*** means Options (as defined in Section 5), SARs (as defined in Section 6), Restricted Stock (as defined in Section 7), Restricted Stock Units (as defined in Section 7) and Other Stock-Based Awards (as defined in Section 8).

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board s sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a ***Committee***). All references in the Plan to the ***Board*** shall mean the Board or a Committee of the Board or the officers referred to in Section 3(c) to the extent that the Board s powers or authority under the Plan have been delegated to such Committee or officers.

(c) Delegation to Officers. To the extent permitted by applicable law, the Board may delegate to one or more officers of the Company the power to grant Options and other Awards that constitute rights under Delaware law (subject to any limitations under the Plan) to employees or officers of the Company and to exercise such other powers under the Plan as the Board may determine, *provided* that the Board shall fix the terms of such Awards to be granted by such officers (including the exercise price of such Awards, which may include a formula by which the exercise price will be determined) and the maximum number of shares subject to such Awards that the officers may grant; *provided further*, however, that no officer shall be authorized to grant such Awards to any executive officer of the Company (as defined by Rule 3b-7 under the Securities Exchange Act

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of 1934, as amended (the ***Exchange Act***)) or to any officer of the Company (as defined by Rule 16a-1 under the Exchange Act). The Board may not delegate authority under this Section 3(c) to grant Restricted Stock, unless Delaware law then permits such delegation.

(d) Awards to Non-Employee Directors. Discretionary Awards to non-employee directors may be granted and administered only by a Committee, all of the members of which are independent directors as defined by Section 5605(a)(2) of the NASDAQ Marketplace Rules.

4. Stock Available for Awards

(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 9, Awards may be made under the Plan, any or all of which Awards may be in the form of Incentive Stock Options (as defined in Section 5(b)) for up to such number of shares of common stock, $0.001 par value per share, of the Company (the ***Common Stock***) as is equal to the sum of:

(A) 4,000,000 shares of Common Stock; plus

(B) such additional number of shares of Common Stock (up to 5,945,000 shares) as is equal to the sum of (x) the number of shares of Common Stock reserved for issuance under the Company s 2008 Stock Incentive Plan (the ***Existing Plan***) that remain available for grant under the Existing Plan immediately prior to the date this Plan is approved by the Company s stockholders and (y) the number of shares of Common Stock subject to awards granted under the Existing Plan which awards expire, terminate or are otherwise surrendered, canceled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right (subject, however, in the case of Incentive Stock Options to any limitations of the Code).

Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(2) Fungible Share Pool. Subject to adjustment under Section 9, any Award that is not a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) and 4(b)(2) as one share for each share of Common Stock subject to such Award and any Award that is a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) and 4(b)(2) as 1.25 shares for each one share of Common Stock subject to such Full-Value Award. Full-Value Award means any Award of Restricted Stock, Restricted Stock Unit Award or Other Stock-Based Award (as defined below) with a per share price or per unit purchase price lower than 100% of Fair Market Value (as defined below) on the date of grant. To the extent a share that was subject to an Award that counted as one share is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with one share. To the extent that a share that was subject to an Award that counts as 1.25 shares is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with 1.25 shares.

(3) Share Counting. For purposes of counting the number of shares available for the grant of Awards under the Plan and under the sublimits contained in Section 4(b)(2):

(A) all shares of Common Stock covered by SARs shall be counted against the number of shares available for the grant of Awards under the Plan and against the sublimit listed in the first clause of this Section 4(a)(3); *provided, however*, that (i) SARs that may be settled only in cash shall not be so counted and (ii) if the Company grants an SAR in tandem with an Option for the same number of shares of Common Stock and provides that only one such Award may be exercised (a ***Tandem SAR***), only the shares covered by the Option, and not the shares covered by the Tandem SAR, shall be so counted, and the expiration of one in connection with the other s exercise will not restore shares to the Plan;

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(B) if any Award (i) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (ii) results in any Common Stock not being issued (including as a result of an SAR that was settleable either in cash or in stock actually being settled in cash), the unused Common Stock covered by such Award shall again be available for the grant of Awards; *provided, however*, that (1) in the case of Incentive Stock Options, the foregoing shall be subject to any limitations under the Code, (2) in the case of the exercise of an SAR, the number of shares counted against the shares available under the Plan and against the sublimit listed in the first clause of this Section 4(a)(3) shall be the full number of shares subject to the SAR multiplied by the percentage of the SAR actually exercised, regardless of the number of shares actually used to settle such SAR upon exercise and (3) the shares covered by a Tandem SAR shall not again become available for grant upon the expiration or termination of such Tandem SAR;

(C) shares of Common Stock delivered (either by actual delivery, attestation, or net exercise) to the Company by a Participant to (i) purchase shares of Common Stock upon the exercise of an Award or (ii) satisfy tax withholding obligations (including shares retained from the Award creating the tax obligation) shall not be added back to the number of shares available for the future grant of Awards; and

(D) shares of Common Stock repurchased by the Company on the open market using the proceeds from the exercise of an Award shall not increase the number of shares available for future grant of Awards.

(b) Sub-limits. Subject to adjustment under Section 9, the following sub-limits on the number of shares subject to Awards shall apply:

(1) Section 162(m) Per-Participant Limit. The maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 1,500,000 per calendar year. For purposes of the foregoing limit, (i) the combination of an Option in tandem with an SAR shall be treated as a single Award and (ii) each share of Common Stock subject to an Award (including each share of Common Stock subject to a Full-Value Award) shall be counted as one share of Common Stock. The per Participant limit described in this Section 4(b)(1) shall be construed and applied consistently with Section 162(m) of the Code or any successor provision thereto, and the regulations thereunder (***Section 162(m)***).

(2) Limit on Awards to Directors. The maximum number of shares with respect to which Awards may be granted to directors who are not employees of the Company at the time of grant shall be 20% of the maximum number of authorized shares set forth in Section 4(a)(1).

(c) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a)(1) or any sublimits contained in the Plan, except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an ***Option***) and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable.

(b) Incentive Stock Options. An Option that the Board intends to be an incentive stock option as defined in Section 422 of the Code (an ***Incentive Stock Option***) shall only be granted to employees of Idera Pharmaceuticals, Inc., any of Idera Pharmaceuticals, Inc. s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. An Option that is not intended to be an Incentive Stock Option shall be designated a ***Nonstatutory Stock Option***. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or if the Company converts an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify the exercise price in the applicable Option agreement. The exercise price shall be not less than 100% of the fair market value per share of Common Stock as determined by (or in a manner approved by) the Board (***Fair Market Value***) on the date the Option is granted; *provided* that if the Board approves the grant of an Option with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement; *provided, however*, that no Option will be granted with a term in excess of 10 years.

(e) Exercise of Options. Options may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with payment in full (in the manner specified in Section 5(f)) of the exercise price for the number of shares for which the Option is exercised. Shares of Common Stock subject to the Option will be delivered by the Company as soon as practicable following exercise.

(f) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash, by check or by wire transfer, payable to the order of the Company;

(2) except as may otherwise be provided in the applicable Option agreement or approved by the Board, in its sole discretion, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) to the extent provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the Participant valued at their Fair Market Value, provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be established by the Board in its discretion and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent provided for in the applicable Nonstatutory Stock Option agreement or approved by the Board in its sole discretion, by delivery of a notice of net exercise to the Company, as a result of which the Participant would receive (i) the number of shares underlying the portion of the Option being exercised, less (ii) such number of shares as is equal to (A) the aggregate exercise price for the portion of the Option being exercised divided by (B) the Fair Market Value on the date of exercise;

(5) to the extent permitted by applicable law and provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by payment of such other lawful consideration as the Board may determine; or

(6) by any combination of the above permitted forms of payment.

(g) Limitation on Repricing. Unless such action is approved by the Company s stockholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding Option granted under the Plan to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option, (2) cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(c)) covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled option, (3) cancel in exchange for a cash payment any outstanding Option with an exercise price per share above the then-current Fair Market Value, other than pursuant to Section 9, or (4) take any other action under the Plan that constitutes a repricing within the meaning of the rules of the NASDAQ Stock Market (***NASDAQ***).

(h) No Reload Options. No Option granted under the Plan shall contain any provision entitling the Participant to the automatic grant of additional Options in connection with any exercise of the original Option.

(i) No Dividend Equivalents. No option shall provide for the payment or accrual of Dividend Equivalents (as defined below).

6. Stock Appreciation Rights

(a) General. The Board may grant Awards consisting of stock appreciation rights (***SARs***) entitling the holder, upon exercise, to receive an amount of Common Stock or cash or a combination thereof (such form to be determined by the Board) determined by reference to appreciation, from and after the date of grant, in the Fair Market Value of a share of Common Stock over the measurement price established pursuant to Section 6(c). The date as of which such appreciation is determined shall be the exercise date.

(b) Grants. SARs may be granted in tandem with, or independently of, Options granted under the Plan.

(1) Tandem Awards. When SARs are expressly granted in tandem with Options, (i) the SAR will be exercisable only at such time or times, and to the extent, that the related Option is exercisable (except to the extent designated by the Board in connection with a Reorganization Event) and will be exercisable in accordance with the procedure required for exercise of the related Option; (ii) the SAR will terminate and no longer be exercisable upon the termination or exercise of the related Option, except to the extent designated by the Board in connection with a Reorganization Event and except that a SAR granted with respect to less than the full number of shares covered by an Option will not be reduced until the number of shares as to which the related Option has been exercised or has terminated exceeds the number of shares not covered by the SAR; (iii) the Option will terminate and no longer be exercisable upon the exercise of the related SAR; and (iv) the SAR will be transferable only with the related Option.

(2) Independent SARs. A SAR not expressly granted in tandem with an Option will become exercisable at such time or times, and on such conditions, as the Board may specify in the SAR Award.

(c) Measurement Price. The Board shall establish the measurement price of each SAR and specify it in the applicable SAR agreement. The measurement price shall not be less than 100% of the Fair Market Value on the date the SAR is granted; *provided* that if the Board approves the grant of an SAR effective as of a future date, the measurement price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of SARs. Each SAR shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable SAR agreement; *provided, however*, that no SAR will be granted with a term in excess of 10 years.

(e) Exercise of SARs. SARs may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with any other documents required by the Board.

(f) Limitation on Repricing. Unless such action is approved by the Company s stockholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding SAR granted under the Plan to provide a measurement price per share that is lower than the then-current measurement price per share of such outstanding SAR, (2) cancel any outstanding SAR (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(c)) covering the same or a different number of shares of Common Stock and having an exercise or measurement price per share lower than the then-current measurement price per share of the cancelled SAR, (3) cancel in exchange for a cash payment any outstanding SAR with a measurement price per share above the then-current Fair Market Value, other than pursuant to Section 9, or (4) take any other action under the Plan that constitutes a repricing within the meaning of the rules of NASDAQ.

(g) No Reload Rights. No SAR granted under the Plan shall contain any provision entitling the grantee to the automatic grant of additional SARs in connection with any exercise of the original SAR.

(h) No Dividend Equivalents. No SAR shall provide for the payment or accrual of Dividend Equivalents.

7. Restricted Stock; Restricted Stock Units

(a) General. The Board may grant Awards entitling recipients to acquire shares of Common Stock (***Restricted Stock***), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. The Board may also grant Awards entitling the recipient to receive shares of Common Stock or cash to be delivered at the time such Award vests (***Restricted Stock Units***) (Restricted Stock and Restricted Stock Units are each referred to herein as a ***Restricted Stock Award***).

(b) Terms and Conditions for All Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, if any.

(c) Additional Provisions Relating to Restricted Stock.

(1) Dividends. Unless otherwise provided in the applicable Award agreement, any dividends (whether paid in cash, stock or property) declared and paid by the Company with respect to shares of Restricted Stock (***Accrued Dividends***) shall be paid to the Participant only if and when such shares become free from the restrictions on transferability and forfeitability that apply to such shares. Each payment of Accrued Dividends will be made no later than the end of the calendar year in which the dividends are paid to stockholders of that class of stock or, if later, the 15th day of the third month following the lapsing of the restrictions on transferability and the forfeitability provisions applicable to the underlying shares of Restricted Stock.

(2) Stock Certificates. The Company may require that any stock certificates issued in respect of shares of Restricted Stock, as well as dividends or distributions paid on such Restricted Stock, shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates

no longer subject to such restrictions to the Participant or if the Participant has died, to his or her Designated Beneficiary. ***Designated Beneficiary*** means (i) the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant s death or (ii) in the absence of an effective designation by a Participant, the Participant s estate.

(d) Additional Provisions Relating to Restricted Stock Units.

(1) Settlement. Upon the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Stock Unit, the Participant shall be entitled to receive from the Company one share of Common Stock or (if so provided in the applicable Award agreement) an amount of cash equal to the Fair Market Value of one share of Common Stock. The Board may, in its discretion, provide that settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the Participant in a manner that complies with Section 409A of the Code.

(2) Voting Rights. A Participant shall have no voting rights with respect to any Restricted Stock Units.

(3) Dividend Equivalents. The Award agreement for Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock (***Dividend Equivalents***). Dividend Equivalents will be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which such Dividend Equivalents were granted.

8. Other Stock-Based Awards

(a) General. Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants (***Other Stock-Based-Awards***). Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine.

(b) Terms and Conditions. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto. Dividend Equivalents will be subject to the same restrictions on transfer and forfeitability as the Other Stock-Based Awards with respect to which such Dividend Equivalents were granted.

9. Adjustments for Changes in Common Stock and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under the Plan, (ii) the share counting rules and sublimits set forth in Sections 4(a) and 4(b), (iii) the number and class of securities and exercise price per share of each outstanding Option, (iv) the share and per-share provisions and the measurement price of each outstanding SAR, (v) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award and (vi) the share and per-share-related provisions and the purchase price, if any, of each outstanding Other Stock-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive,

on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A ***Reorganization Event*** shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled, (b) any transfer or disposition of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Restricted Stock.

(A) In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Stock on such terms as the Board determines (except to the extent specifically provided otherwise in an applicable Award agreement or another agreement between the Company and the Participant): (i) provide that such Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that all of the Participant s unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant (to the extent then exercisable) within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the ***Acquisition Price***), make or provide for a cash payment to Participants with respect to each Award held by a Participant equal to (A) the number of shares of Common Stock subject to the vested portion of the Award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such Reorganization Event) multiplied by (B) the excess, if any, of (I) the Acquisition Price over (II) the exercise, measurement or purchase price of such Award and any applicable tax withholdings, in exchange for the termination of such Award, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 9(b)(2), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

(B) Notwithstanding the terms of Section 9(b)(2)(A), in the case of outstanding Restricted Stock Units that are subject to Section 409A of the Code: (i) if the applicable Restricted Stock Unit agreement provides that the Restricted Stock Units shall be settled upon a change in control event within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(i), and the Reorganization Event constitutes such a change in control event , then no assumption or substitution shall be permitted pursuant to Section 9(b)(2)(A)(i) and the Restricted Stock Units shall instead be settled in accordance with the terms of the applicable Restricted Stock Unit agreement; and (ii) the Board may only undertake the actions set forth in clauses (iii), (iv) or (v) of Section 9(b)(2)(A) if the Reorganization Event constitutes a change in control event as defined under Treasury Regulation Section 1.409A-3(i)(5)(i) and such action is permitted or required by Section 409A of the Code; if the Reorganization Event is not a change in control event as so defined or such action is not permitted or required by Section 409A of the Code, and the acquiring or succeeding corporation does not assume or substitute the Restricted Stock Units pursuant to clause (i) of Section 9(b)(2)(A), then the unvested Restricted Stock Units shall terminate immediately prior to the consummation of the Reorganization Event without any payment in exchange therefor.

(C) For purposes of Section 9(b)(2)(A)(i), an Award (other than Restricted Stock) shall be considered assumed if, following consummation of the Reorganization Event, such Award confers the right to purchase or receive pursuant to the terms of such Award, for each share of Common Stock subject to the Award immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); *provided, however*, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise or settlement of the Award to consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the Board determined to be equivalent in value (as of the date of such determination or another date specified by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

(3) Consequences of a Reorganization Event on Restricted Stock. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company with respect to outstanding Restricted Stock shall inure to the benefit of the Company s successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to such Restricted Stock; *provided*, *however*, that the Board may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, either initially or by amendment. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, all restrictions and conditions on all Restricted Stock then outstanding shall automatically be deemed terminated or satisfied.

10. General Provisions Applicable to Awards

(a) Transferability of Awards. Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant; *provided, however*, that the Board may permit or provide in an Award for the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if the Company would be eligible to use a Form S-8 under the Securities Act for the registration of the sale of the Common Stock subject to such Award to such proposed transferee; *provided further*, that the Company shall not be required to recognize any such permitted transfer until such time as such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees. For the avoidance of doubt, nothing contained in this Section 10(a) shall be deemed to restrict a transfer to the Company.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, retirement, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant s legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) Withholding. The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Common Stock under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise, vesting or release from forfeiture of an Award or at the same time as payment of the exercise or purchase price, unless the Company determines otherwise. If provided for in an Award or approved by the Board in its sole discretion, a Participant may satisfy such tax obligations in whole or in part by delivery (either by actual delivery or attestation) of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; *provided, however*, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company s minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares used to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award. Except as otherwise provided in Section 5(g) with respect to repricings, Section 10(i) with respect to Performance Awards or Section 11(d) with respect to actions requiring stockholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant s consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, does not materially and adversely affect the Participant s rights under the Plan or (ii) the change is permitted under Section 9.

(g) Conditions on Delivery of Stock. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously issued or delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company s counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and regulations and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. The Board may at any time provide that any Award shall become immediately exercisable in whole or in part, free of some or all restrictions or conditions, or otherwise realizable in whole or in part, as the case may be.

(i) Performance Awards.

(1) Grants. Restricted Stock Awards and Other Stock-Based Awards under the Plan may be made subject to the achievement of performance goals pursuant to this Section 10(i) (***Performance Awards***). Performance Awards can also provide for cash payments of up to $1,500,000 per fiscal year per individual.

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(2) Committee. Grants of Performance Awards to any Covered Employee (as defined below) intended to qualify as performance-based compensation under Section 162(m) (***Performance-Based Compensation***) shall be made only by a Committee (or a subcommittee of a Committee) comprised solely of two or more directors eligible to serve on a committee making Awards qualifying as performance-based compensation under Section 162(m). In the case of such Awards granted to Covered Employees, references to the Board or to a Committee shall be treated as referring to such Committee (or subcommittee). ***Covered Employee*** shall mean any person who is, or whom the Committee, in its discretion, determines may be, a covered employee under Section 162(m)(3) of the Code.

(3) Performance Measures. For any Award that is intended to qualify as Performance-Based Compensation, the Committee shall specify that the degree of granting, vesting and/or payout shall be subject to the achievement of one or more objective performance measures established by the Committee, which shall be based on the relative or absolute attainment of specified levels of one or any combination of the following, which may be determined pursuant to generally accepted accounting principles (***GAAP***) or on a non-GAAP basis, as determined by the Committee: (a) earnings per share, (b) return on average equity or average assets with respect to a pre-determined peer group, (c) earnings, (d) earnings growth, (e) revenues, (f) expenses, (g) stock price, (h) market share, (i) return on sales, assets, equity or investment, (j) regulatory compliance, (k) achievement of balance sheet or income statement objectives, (l) total shareholder return, (m) net operating profit after tax, (n) pre-tax or after tax income, (o) cash flow, (p) achievement of research, development, clinical or regulatory milestones, (q) product sales, (r) business development activities, (s) the entry into an arrangement or agreement with a third party for the development, commercialization, marketing or distribution of products, services or technologies, or for conducting a research program to discover and develop a product, service or technology, and/or the achievement of milestones under such arrangement or agreement, including events that trigger an obligation or payment right, (t) achievement of domestic and international regulatory milestones, including the submission of filings required to advance products, services and technologies in clinical development and the achievement of approvals by regulatory authorities relating to the commercialization of products, services and technologies, (u) the achievement of discovery, preclinical and clinical stage scientific objectives, discoveries or inventions for products, services and technologies under research and development, (v) the entry into or completion of a phase of clinical development for any product, service or technology, such as the entry into or completion of phase 1, 2 and/or 3 clinical trials, (w) the consummation of debt or equity financing transactions, or acquisitions of business, technologies and assets, (x) new product or service releases, (y) specified levels of product sales, net income, earnings before or after discontinued operations, interest, taxes, depreciation and/or amortization, operating profit before or after discontinued operations and/or taxes, sales, sales growth, earnings growth, cash flow or cash position, gross margins, stock price, market share, return on sales, assets, equity or investment and (z) improvement of financial ratings. Such goals may reflect absolute entity or business unit performance or a relative comparison to the performance of a peer group of entities or other external measure of the selected performance criteria and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. The Committee may specify that such performance measures shall be adjusted to exclude any one or more of (i) extraordinary items, (ii) gains or losses on the dispositions of discontinued operations, (iii) the cumulative effects of changes in accounting principles, (iv) the writedown of any asset, (v) fluctuation in foreign currency exchange rates, and (vi) charges for restructuring and rationalization programs. Such performance measures: (i) may vary by Participant and may be different for different Awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in which the Participant works and may cover such period as may be specified by the Committee; and (iii) shall be set by the Committee within the time period prescribed by, and shall otherwise comply with the requirements of, Section 162(m). Awards that are not intended to qualify as Performance-Based Compensation may be based on these or such other performance measures as the Board may determine.

(4) Adjustments. Notwithstanding any provision of the Plan, with respect to any Performance Award that is intended to qualify as Performance-Based Compensation, the Committee may adjust downwards, but not upwards, the cash or number of shares payable pursuant to such Award, and the Committee may not waive the

achievement of the applicable performance measures except in the case of the death or disability of the Participant or a change in control of the Company.

(5) Other. The Committee shall have the power to impose such other restrictions on Performance Awards as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for Performance-Based Compensation. Dividend Equivalents will be subject to the same restrictions on transfer and forfeitability as the Performance Awards with respect to which such Dividend Equivalents were granted.

11. Miscellaneous

(a) No Right To Employment or Other Status. No person shall have any claim or right to be granted an Award by virtue of the adoption of the Plan, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Stockholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

(c) Effective Date and Term of Plan. The Plan shall become effective on the date the Plan is approved by the Company s stockholders (the ***Effective Date***). No Awards shall be granted under the Plan after the expiration of 10 years from the Effective Date, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that (i) to the extent required by Section 162(m), no Award granted to a Participant that is intended to comply with Section 162(m) after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award, unless and until the Company s stockholders approve such amendment in the manner required by Section 162(m); (ii) no amendment that would require stockholder approval under the rules of NASDAQ may be made effective unless and until the Company s stockholders approve such amendment; and (iii) if the NASDAQ amends its corporate governance rules so that such rules no longer require stockholder approval of NASDAQ material amendments to equity compensation plans, then, from and after the effective date of such amendment to the NASDAQ rules, no amendment to the Plan (A) materially increasing the number of shares authorized under the Plan (other than pursuant to Section 4(c) or 9), (B) expanding the types of Awards that may be granted under the Plan, or (C) materially expanding the class of participants eligible to participate in the Plan shall be effective unless and until the Company s stockholders approve such amendment. In addition, if at any time the approval of the Company s stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 11(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment, taking into account any related action, does not materially and adversely affect the rights of Participants under the Plan.

(e) Authorization of Sub-Plans (including for Grants to non-U.S. Employees). The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable securities, tax or other laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to the Plan containing (i) such limitations on the Board s discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

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(f) Compliance with Section 409A of the Code. Except as provided in individual Award agreements initially or by amendment, if and to the extent (i) any portion of any payment, compensation or other benefit provided to a Participant pursuant to the Plan in connection with his or her employment termination constitutes nonqualified deferred compensation within the meaning of Section 409A of the Code and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of separation from service (as determined under Section 409A of the Code) (the ***New Payment Date***), except as Section 409A of the Code may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

The Company makes no representations or warranty and shall have no liability to the Participant or any other person if any provisions of or payments, compensation or other benefits under the Plan are determined to constitute nonqualified deferred compensation subject to Section 409A of the Code but do not to satisfy the conditions of that section.

(g) Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer, employee or agent of the Company will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability, or expense incurred in connection with the Plan, nor will such individual be personally liable with respect to the Plan because of any contract or other instrument he or she executes in his or her capacity as a director, officer, employee or agent of the Company. The Company will indemnify and hold harmless each director, officer, employee or agent of the Company to whom any duty or power relating to the administration or interpretation of the Plan has been or will be delegated, against any cost or expense (including attorneys fees) or liability (including any sum paid in settlement of a claim with the Board s approval) arising out of any act or omission to act concerning the Plan unless arising out of such person s own fraud or bad faith.

(h) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than the State of Delaware.

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Exhibit 10.2

IDERA PHARMACEUTICALS, INC.

Incentive Stock Option Agreement

Granted Under 2013 Stock Incentive Plan

1. Grant of Option.
This agreement evidences the grant by Idera Pharmaceuticals, Inc., a Delaware corporation (the Company), on , 201[ ] (the Grant Date) to [ ], an employee of the Company (the Participant), of an option to purchase, in whole or in part, on the terms provided herein and in the Company s 2013 Stock Incentive Plan (the Plan), a total of [ ] shares (the Shares) of common stock, $0.001 par value per share, of the Company (Common Stock) at $[ ] per Share. Unless earlier terminated, this option shall expire at 5:00 p.m., Eastern time, on [ ] (the Final Exercise Date).

It is intended that the option evidenced by this agreement shall be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the Code). Except as otherwise indicated by the context, the term Participant , as used in this option, shall be deemed to include any person who acquires the right to exercise this option validly under its terms.

2. Vesting Schedule.
This option will become exercisable (vest) as to .

The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this option under Section 3 hereof or the Plan.

3. Exercise of Option.
(a) Form of Exercise. Each election to exercise this option shall be in writing, signed by the Participant, and received by the Company at its principal office, accompanied by this agreement, and payment in full in the manner provided in the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this option may be for any fractional share.

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(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this option may not be exercised unless the Participant, at the time he or she exercises this option, is, and has been at all times since the Grant Date, an employee or officer or director of, or consultant or advisor (as such terms are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended) to, the Company or any parent or subsidiary of the Company as defined in Section 424(e) or (f) of the Code (an Eligible Participant).

(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in paragraphs (d) and (e) below, the right to exercise this option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this option shall be exercisable only to the extent that the Participant was entitled to exercise this option on the date of such cessation. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the non-competition or confidentiality provisions of any employment contract, confidentiality and nondisclosure agreement or other agreement between the Participant and the Company, the right to exercise this option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death or Disability. If the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code) prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for cause as specified in paragraph (e) below, this option shall be exercisable, within the period of one year following the date of death or disability of the Participant, by the Participant (or in the case of death by an authorized transferee), provided that this option shall be exercisable only to the extent that this option was exercisable by the Participant on the date of his or her death or disability, and further provided that this option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant s employment is terminated by the Company for Cause (as defined below), the right to exercise this option shall terminate immediately upon the effective date of such termination of employment. If the Participant is party to an employment or severance agreement with the Company that contains a definition of cause for termination of employment, Cause shall have the meaning ascribed to such term in such agreement. Otherwise, Cause shall mean willful misconduct by the Participant or willful failure by the Participant to perform his or her responsibilities to the Company (including, without limitation, breach by the Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or other similar agreement between the Participant and the Company), as determined by the Company, which determination shall be conclusive. The Participant shall be considered to have been discharged for Cause if the Company determines, within 30 days after the Participant s resignation, that discharge for cause was warranted.

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4. Tax Matters.
(a) Withholding. No Shares will be issued pursuant to the exercise of this option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this option.

(b) Disqualifying Disposition. If the Participant disposes of Shares acquired upon exercise of this option within two years from the Grant Date or one year after such Shares were acquired pursuant to exercise of this option, the Participant shall notify the Company in writing of such disposition.

5. Nontransferability of Option.
This option may not be sold, assigned, transferred, pledged or otherwise encumbered by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this option shall be exercisable only by the Participant.

6. Provisions of the Plan.
This option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this option.

IN WITNESS WHEREOF, the Company has caused this option to be executed under its corporate seal by its duly authorized officer. This option shall take effect as a sealed instrument.

IDERA PHARMACEUTICALS, INC.

By:

Name:
Title:

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PARTICIPANT S ACCEPTANCE

The undersigned hereby accepts the foregoing option and agrees to the terms and conditions thereof. The undersigned hereby acknowledges receipt of a copy of the Company s 2013 Stock Incentive Plan.

PARTICIPANT:

Address:

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FORM OF NOTICE OF STOCK OPTION EXERCISE

Date: _____

Idera Pharmaceuticals, Inc.

167 Sidney Street

Cambridge, MA 02139

Attention: Treasurer

Dear Sir or Madam:

I am the holder of an Incentive Stock Option granted to me under the Idera Pharmaceuticals, Inc. (the Company) 2013 Stock Incentive Plan on _____ for the purchase of _____ shares of common stock, par value $0.001 per share, of the Company (Common Stock) at a purchase price of $____ per share.

I hereby exercise my option with respect to _____ shares of Common Stock, for which I have enclosed _____ in the amount of _____. Please register my stock certificate as follows:

Name(s):

Address:

Tax I.D. #:

Very truly yours,

Name:

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Exhibit 10.3

IDERA PHARMACEUTICALS, INC.

Nonstatutory Stock Option Agreement

Granted Under 2013 Stock Incentive Plan

1. Grant of Option.
This agreement evidences the grant by Idera Pharmaceuticals, Inc., a Delaware corporation (the Company), on , 201[ ] (the Grant Date) to [ ], an [employee of] [consultant to] the Company (the Participant), of an option to purchase, in whole or in part, on the terms provided herein and in the Company s 2013 Stock Incentive Plan (the Plan), a total of [ ] shares (the Shares) of common stock, $0.001 par value per share, of the Company (Common Stock) at $[ ] per Share. Unless earlier terminated, this option shall expire at 5:00 p.m., Eastern time, on [ ] (the Final Exercise Date).

It is intended that the option evidenced by this agreement shall not be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the Code). Except as otherwise indicated by the context, the term Participant , as used in this option, shall be deemed to include any person who acquires the right to exercise this option validly under its terms.

2. Vesting Schedule.
This option will become exercisable (vest) as to .

The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this option under Section 3 hereof or the Plan.

3. Exercise of Option.
(a) Form of Exercise. Each election to exercise this option shall be in writing, signed by the Participant, and received by the Company at its principal office, accompanied by this agreement, and payment in full in the manner provided in the Plan or indication on such notice of exercise that the Participant wishes to effect a net exercise of this option in accordance with Section 5(f)(4) of the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this option may be for any fractional share.

(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this option may not be exercised unless the Participant, at the time he

or she exercises this option, is, and has been at all times since the Grant Date, an employee or officer or director of, or consultant or advisor (as such terms are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended) to, the Company or any other entity the employees, officers, consultants, or advisors of which are eligible to receive option grants under the Plan (an Eligible Participant).

(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in paragraphs (d) and (e) below, the right to exercise this option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this option shall be exercisable only to the extent that the Participant was entitled to exercise this option on the date of such cessation. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the non-competition or confidentiality provisions of any employment contract, confidentiality and nondisclosure agreement or other agreement between the Participant and the Company, the right to exercise this option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death or Disability. If the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code) prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for cause as specified in paragraph (e) below, this option shall be exercisable, within the period of one year following the date of death or disability of the Participant, by the Participant (or in the case of death by an authorized transferee), provided that this option shall be exercisable only to the extent that this option was exercisable by the Participant on the date of his or her death or disability, and further provided that this option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant s employment or other relationship with the Company is terminated by the Company for Cause (as defined below), the right to exercise this option shall terminate immediately upon the effective date of such termination of employment or other relationship. If the Participant is party to an employment, consulting or severance agreement with the Company that contains a definition of cause for termination of employment or other relationship, Cause shall have the meaning ascribed to such term in such agreement. Otherwise, Cause shall mean willful misconduct by the Participant or willful failure by the Participant to perform his or her responsibilities to the Company (including, without limitation, breach by the Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or other similar agreement between the Participant and the Company), as determined by the Company, which determination shall be conclusive. The Participant shall be considered to have been discharged for Cause if the Company determines, within 30 days after the Participant s resignation, that discharge for cause was warranted.

4. Withholding.

No Shares will be issued pursuant to the exercise of this option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this option.

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5. Nontransferability of Option.
This option may not be sold, assigned, transferred, pledged or otherwise encumbered by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this option shall be exercisable only by the Participant.

6. Provisions of the Plan.
This option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this option.

IN WITNESS WHEREOF, the Company has caused this option to be executed under its corporate seal by its duly authorized officer. This option shall take effect as a sealed instrument.

IDERA PHARMACEUTICALS, INC.

By:

Name:
Title:

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PARTICIPANT S ACCEPTANCE

The undersigned hereby accepts the foregoing option and agrees to the terms and conditions thereof. The undersigned hereby acknowledges receipt of a copy of the Company s 2013 Stock Incentive Plan.

PARTICIPANT:

Address:

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FORM OF NOTICE OF STOCK OPTION EXERCISE

Date: _____

Idera Pharmaceuticals, Inc.

167 Sidney Street

Cambridge, MA 02139

Attention: Treasurer

Dear Sir or Madam:

I am the holder of a Nonstatutory Stock Option granted to me under the Idera Pharmaceuticals, Inc. (the Company) 2013 Stock Incentive Plan (the Plan) on _____ for the purchase of _____ shares of common stock, par value $0.001 per share, of the Company (Common Stock) at a purchase price of $____ per share.

I hereby exercise my option with respect to _____ shares of Common Stock for which:

(Select as appropriate)

I have enclosed _____ in the amount of _____.

I wish to effect a net exercise in accordance with Section 5(f)(4) of the Plan, and in connection therewith I understand that I will receive the number of shares set forth above with respect to which I am exercising my option less such number of shares as is equal to (A) the aggregate purchase price for the shares with respect to which I am exercising my option divided by (B) the fair market value per share of Common Stock (as determined under the Plan) on the date of exercise of my option. This notice shall constitute a notice of net exercise as required under Section 5(f)(4) of the Plan.

Please register my stock certificate as follows:

Name(s):

Address:

Tax I.D. #:

Very truly yours,

Name:

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Exhibit 10.4

IDERA PHARMACEUTICALS, INC.

Non-Employee Director

Nonstatutory Stock Option Agreement

Granted Under 2013 Stock Incentive Plan

1. Grant of Option.
This agreement evidences the grant by Idera Pharmaceuticals, Inc., a Delaware corporation (the Company), on , 201[ ] (the Grant Date) to [ ], a director of the Company (the Participant), of an option to purchase, in whole or in part, on the terms provided herein and in the Company s 2013 Stock Incentive Plan (the Plan), a total of [ ] shares (the Shares) of common stock, $0.001 par value per share, of the Company (Common Stock) at $[ ] per Share. Unless earlier terminated, this option shall expire at 5:00 p.m., Eastern time, on [ ] (the Final Exercise Date).

It is intended that the option evidenced by this agreement shall not be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the Code). Except as otherwise indicated by the context, the term Participant , as used in this option, shall be deemed to include any person who acquires the right to exercise this option validly under its terms.

2. Vesting Schedule.
This option will become exercisable (vest) as to . [Notwithstanding the foregoing, this option shall immediately become exercisable in full in the event a Reorganization Event (as defined in the Plan) occurs.]

The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this option under Section 3 hereof or the Plan.

3. Exercise of Option.
(a) Form of Exercise. Each election to exercise this option shall be in writing, signed by the Participant, and received by the Company at its principal office, accompanied by this agreement, and payment in full in the manner provided in the Plan or indication on such notice of exercise that the Participant wishes to effect a net exercise of this option in accordance with Section 5(f)(4) of the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this option may be for any fractional share.

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(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this option may not be exercised unless the Participant, at the time he or she exercises this option, is, and has been at all times since the Grant Date, a director or consultant (as such term is defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended) of the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive option grants under the Plan (an Eligible Participant).

(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in paragraphs (d) and (e) below, the right to exercise this option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this option shall be exercisable only to the extent that the Participant was entitled to exercise this option on the date of such cessation. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the non-competition or confidentiality provisions of any employment contract, confidentiality and nondisclosure agreement or other agreement between the Participant and the Company, the right to exercise this option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death or Disability. If the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code) prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for cause as specified in paragraph (e) below, this option shall be exercisable, within the period of one year following the date of death or disability of the Participant, by the Participant (or in the case of death by an authorized transferee), provided that this option shall be exercisable only to the extent that this option was exercisable by the Participant on the date of his or her death or disability, and further provided that this option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant s employment or other relationship with the Company is terminated by the Company for Cause (as defined below), the right to exercise this option shall terminate immediately upon the effective date of such termination of employment or other relationship. If the Participant is party to an employment, consulting or severance agreement with the Company that contains a definition of cause for termination of employment or other relationship, Cause shall have the meaning ascribed to such term in such agreement. Otherwise, Cause shall mean willful misconduct by the Participant or willful failure by the Participant to perform his or her responsibilities to the Company (including, without limitation, breach by the Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or other similar agreement between the Participant and the Company), as determined by the Company, which determination shall be conclusive. The Participant shall be considered to have been discharged for Cause if the Company determines, within 30 days after the Participant s resignation, that discharge for cause was warranted.

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4. Withholding.
No Shares will be issued pursuant to the exercise of this option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this option.

5. Nontransferability of Option.
This option may not be sold, assigned, transferred, pledged or otherwise encumbered by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this option shall be exercisable only by the Participant.

6. Provisions of the Plan.
This option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this option.

IN WITNESS WHEREOF, the Company has caused this option to be executed under its corporate seal by its duly authorized officer. This option shall take effect as a sealed instrument.

IDERA PHARMACEUTICALS, INC.

By:

Name:
Title:

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PARTICIPANT S ACCEPTANCE

The undersigned hereby accepts the foregoing option and agrees to the terms and conditions thereof. The undersigned hereby acknowledges receipt of a copy of the Company s 2013 Stock Incentive Plan.

PARTICIPANT:

Address:

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FORM OF NOTICE OF STOCK OPTION EXERCISE

Date: _____

Idera Pharmaceuticals, Inc.

167 Sidney Street

Cambridge, MA 02139

Attention: Treasurer

Dear Sir or Madam:

I am the holder of a Nonstatutory Stock Option granted to me under the Idera Pharmaceuticals, Inc. (the Company) 2013 Stock Incentive Plan (the Plan) on _____ for the purchase of _____ shares of common stock, par value $0.001 per share, of the Company (Common Stock) at a purchase price of $____ per share.

I hereby exercise my option with respect to _____ shares of Common Stock for which:

(Select as appropriate)

I have enclosed _____ in the amount of _____.

I wish to effect a net exercise in accordance with Section 5(f)(4) of the Plan, and in connection therewith I understand that I will receive the number of shares set forth above with respect to which I am exercising my option less such number of shares as is equal to (A) the aggregate purchase price for the shares with respect to which I am exercising my option divided by (B) the fair market value per share of Common Stock (as determined under the Plan) on the date of exercise of my option. This notice shall constitute a notice of net exercise as required under Section 5(f)(4) of the Plan.

Please register my stock certificate as follows:

Name(s):

Address:

Tax I.D. #:

Very truly yours,

Name:

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d)

of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 12, 2013

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

167 Sidney Street

Cambridge, Massachusetts **02139**
(Address of principal executive offices) **(Zip Code)**
Registrant s telephone number, including area code: (617) 679-5500

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

¨ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

¨ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

¨ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

¨ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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Item 8.01. Other Events.

Idera Pharmaceuticals, Inc. (the Company) today announced that it has received formal notice from the Listing Qualifications Staff (the Staff) of the Nasdaq Stock Market that the Company has regained compliance with the $1.00 minimum bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2). On May 29, 2013, the Staff had notified the Company that its common stock had failed to maintain the minimum bid price of $1.00 as required by Nasdaq Listing Rule 5550(a)(2). The Staff notice confirmed that the matter has been closed. With the closing of this matter, the Company is now in compliance with all requirements for continued listing on the Nasdaq Capital Market.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: August 12, 2013

By: /s/ Louis J. Arcudi, III
Louis J. Arcudi, III

Chief Financial Officer,

Treasurer and Secretary